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Livermore Amador Valley Planning Unit
Plan Amendment Consideration and EIR

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City pl.*

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Livermore area*

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LIVERMORE-AMADOR VALLEY PLANNING UNIT
PLAN AMENDMENT CONSIDERATION AND EIR

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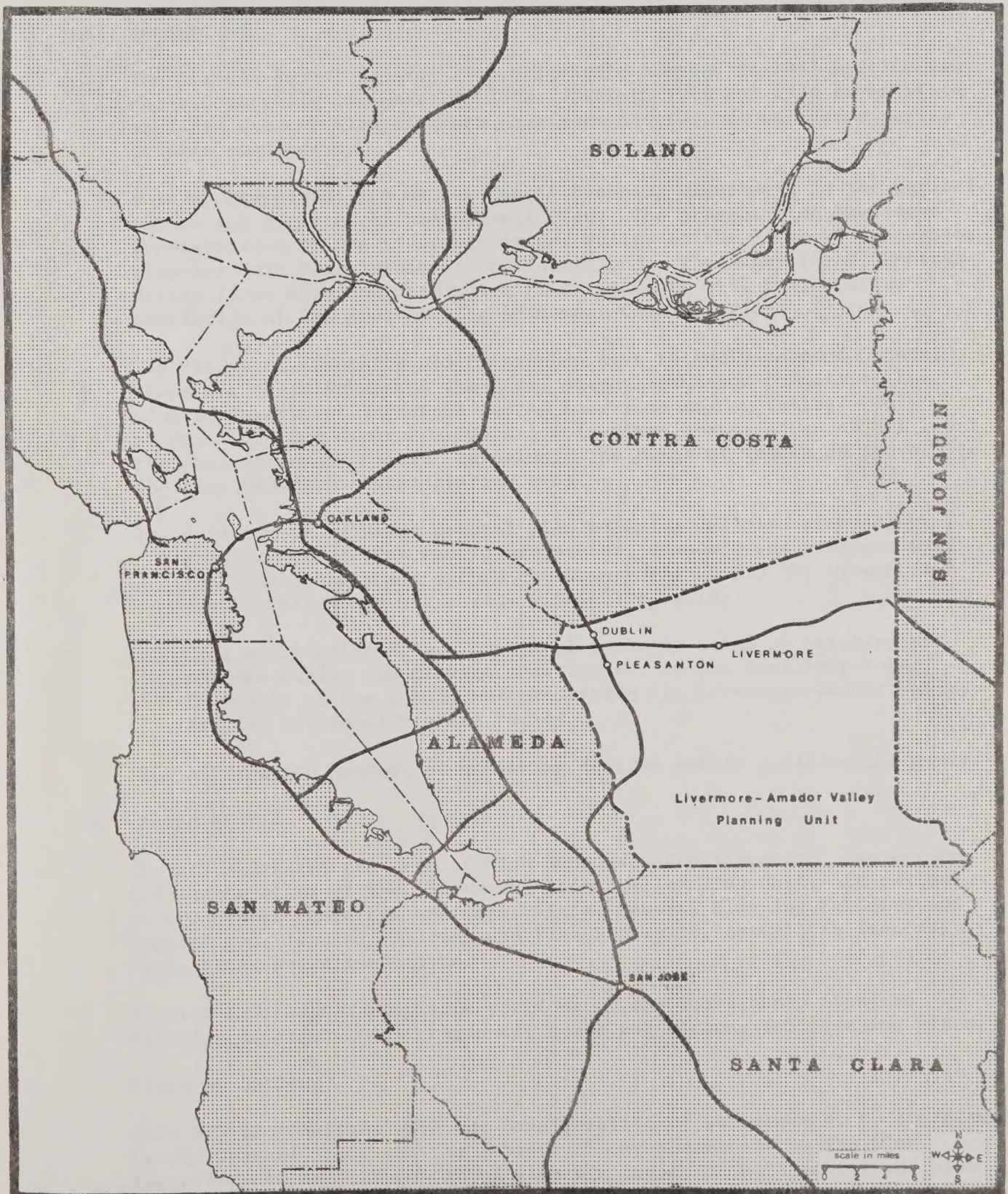
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LIVERMORE-AMADOR VALLEY PLANNING UNIT
PLAN AMENDMENT CONSIDERATION AND EIR

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REGIONAL SETTING



REGIONAL SETTING



I. INTRODUCTION

A. Background

The Alameda County General Plan originally adopted in 1957 had the last major Countywide amendment in 1966. Between 1966 and 1976 seven state mandated General Plan Elements have been adopted, as well as a series of plan amendments.

A major responsibility of the County Planning Department is the periodic review and updating of the General Plan. The present Plan Amendment Consideration of the Livermore Amador Valley is the first of four major Planning Unit Plan Amendment Considerations. The other three, Central Metropolitan Eden and Washington Planning Units will follow after completion of the present Plan Amendment Consideration.

The cities of Livermore and Pleasanton have recently adopted General Plans for their areas and the Local Agency Formation Commission has adopted Spheres of Influence in the Livermore-Amador Valley. This present Plan Amendment Consideration involves coordination of all local, regional state and federal agencies. The range of issues of concern to the Plan Amendment Consideration are:

1. Validity of existing general plan policies and plan proposals considering present and future social, economic and environmental conditions and goals within the County and within the Livermore-Amador Valley and the cities within the Valley.
2. Cost and benefit of any change of goals in terms of existing and planned public and private commitments, to the best long-range interests of the public welfare within the Livermore-Amador Valley and the cities within the Valley.
3. Alternative methods of achieving desired public policies and goals.

B. Scope of EIR

The EIR addresses the area of Plan Amendment Consideration, the entire 418 square miles of the Livermore-Amador Valley Plan Unit. It reviews Environmental Resources and Constraints, General Planning Policies and Regulations, Issues, Policies and Plan Proposals, as well as Impacts, Mitigations and Alternatives.

It also discusses appropriate portions of the above named items in relation to other local, regional, state and federal policies and plans.

Range of Options

This EIR is concerned with the Consideration of an amendment to the Alameda County General Plan, and the impacts of any amendments to the plan. Therefore, it must be concerned with the impact of both policy and plan

changes and consider available options. The range of options open to the County are:

1. Ratify present General Plan Policies and Land Use Designation as reflecting goals and objectives of the County.

The Present General Plan Policies and Land Use designation includes the General Plans of the cities of Livermore and Pleasanton as adopted in 1966, the date of adoption of the original County General Plan, which was itself an amendment to the 1957 County Master Plan.

Present General Plan Policies and Land Use designations in the unincorporated area include those adopted in 1966 as amended by a series of amendments including the Pleasanton-Dublin Hill area, the North Livermore area and the following General Plan Elements adopted since 1966: Scenic Route, Open Space, Conservation, Seismic Safety, Safety, Noise and Housing.

These policies, in general, reflect the objectives to provide urban development with amenities; to provide an orderly physical environment; to promote the general welfare; to balance resources and needs; to relate the physical development in the county to that of the region; and to coordinate public facilities and land use.

The plan also reflects projected 1990 household sizes which, since 1966, have been severely reduced thus lowering the population holding capacity and utility and facility needs. The policies, plans and population holding capacities of the cities for 1990 have undergone significant changes since they were included in the County Plan in 1966.

2. Change General Plan Policies to Reflect Revised Goals and Objectives of the County.

a) Revise General Plan policies to reflect adopted policies and plans for the cities of Livermore and Pleasanton, revise policies and plans for the unincorporated Upper Amador Valley and retain adopted policies and plans for the unincorporated North Livermore area.

b) Revise General Plan policies to reflect proposed revisions to policies and plans for the cities of Livermore and Pleasanton, proposed revisions to policies and plans for the unincorporated Upper Amador Valley and retain adopted policies and plans for the unincorporated North Livermore area.

c) Revise General Plan policies to reflect adopted policies and plans for the Cities of Livermore and Pleasanton, revise policies and plans for the unincorporated Upper Amador Valley and delete adopted policies and plans for the North Livermore area.

Report Purpose

The purpose of this EIR is to determine the impacts of retaining or changing existing General Plan policies as outlined in the previous section. It is prepared in accordance with the requirements of the California Environmental Quality Act of 1970 (CEQA), State Guidelines for implementation of the Act, and revised Alameda County Guidelines, dated February 7, 1974.

Findings presented in the background reports to this report suggest that consideration of amendment to General Plan goals, objectives, policies and proposals for the Livermore-Amador Valley Planning Unit is warranted by changes in social, economic and environmental conditions in the Planning Unit, the County and the region, by changes in the development policies of local, regional, state and federal agencies, and by changes in County policies, including adoption of new plan elements.

B. Project Area

The Livermore-Amador Valley Planning Unit is one of four Planning Units in Alameda County. The 418 square mile statistical and planning area encompasses the Livermore-Amador Valley. The Unit includes the cities of Pleasanton and Livermore and the unincorporated community of Dublin. Approximately 94 percent of the Planning Unit is unincorporated.

C. Jurisdictional Responsibilities

Land use in the Planning Unit is directly regulated by Alameda County, the City of Livermore and the City of Pleasanton. Legislative authority for land use regulation in all unincorporated lands of Alameda County, including those in the Livermore-Amador Valley, is vested in the County Board of Supervisors. The County's general plan responsibilities, however, extend to all lands in Alameda County, both incorporated and unincorporated. The incorporated lands in the Livermore-Amador Valley are under the regulating authority of the cities of Livermore and Pleasanton. The cities are authorized, under Section 65300 of the State Government Code, to plan for lands outside their boundaries which bear relation to their planning programs.

While regulatory functions are clearly defined by jurisdictional boundaries, there is an overlapping of planning responsibilities and concerns. This reflects:

1. The concern of the cities regarding the effects of development in the surrounding unincorporated areas on municipal service functions and on community development objectives; and
2. The concern of County government regarding the effect of municipal development policies and programs on unincorporated areas, and the effect of individual and collective municipal policies on Countywide policies and programs, and on countywide development objectives.

The Government Code Section includes the following directives regarding coordination of planning programs. Local planning agencies are required:

- to consult and advise with agencies, organizations and citizens "to the end that maximum coordination of plans may be secured . . ."
- to submit plan elements to state agencies for review and approval;
- to refer proposed plans and plan amendments to other planning agencies, and to the Local Agency Formation Commission; and
- after adoption of the general plan, to consult and advise with public officials and agencies with relation to carrying out the plan.

Extension of city authority through annexation is controlled by the Alameda County Local Agency Formation Commission (LAFC). The State Government Code authorizes the Commission to approve or disapprove proposals for annexations to a city, as well as proposals for incorporation of a city, formation of a special district, annexation to a district, exclusion of territory from its disincorporation of a city, or consolidation of two or more cities. The Commission may not impose any condition which would regulate land use.

The Local Agency Formation Commission is also required to develop and determine "a sphere of influence" for every local governmental agency. This is "a plan for the probable ultimate physical boundaries and service areas of a local governmental agency." Maps of the adopted spheres of influence for the cities of Livermore and Pleasanton are included in this document.

D. Regional Setting

The Livermore-Amador Valley Planning Unit is within the San Francisco Bay region of California. The Planning Unit is bounded on the north, east and south, respectively by Contra Costa County, San Joaquin County, and Santa Clara County. The City of Fremont borders the Planning Unit on the southwest. The City of Hayward extends into the Planning Unit in the Pleasanton hill area.

1. Relation to Regional Growth Trends Development in the Livermore-Amador Valley between 1920 and the present time has been marked by an accelerating rate and change in the land use pattern based upon economic, social, and political integration with the Bay Region. Since 1960 growth in the Valley has typified suburban growth throughout the Region, reflecting the most recent trend in regional development: significant gains in areas farthest away from the urban core, slowing growth in close-in communities, and continued loss of population in the urban core areas.

2. Relation to Regional Environment

Subsequent sections of this report including Section III Environmental Resources and Constraints and Section IV General Planning Policies and Regulations discuss the relationship of the Livermore-Amador Valley to the regional environment.

III. ENVIRONMENTAL RESOURCES AND CONSTRAINTS

Introduction

The environmental setting of the Livermore-Amador Valley Planning Unit is described in terms of A) its regional setting; B) conditions of the natural physical environmental setting, including resources, hazards and constraints and related state, regional and county policies and guidelines; C) conditions of the cultural environment, including present land use and existing public services; and D) socio-economic conditions, including projections.

A. REGIONAL SETTING

Alameda County is located on the east side of southern San Francisco Bay. Within its boundaries are 735 miles of land, 77 square miles of bay. Elevations range from sea level along the 36 miles of bay shoreline to 3,817 feet in the foothills south of Livermore. The County is approximately 32 miles in length in a north-south direction and 45 miles in width in an east-west direction. The county is a diverse combination of land-types and land-forms, ranging from salt water marshes along the bay flood plain to moderately high uplands and intermontaine valleys. The climate varies to provide a marine environment along the bay fringes to fog-shrouded and Redwood forest in the East Bay Hills, to arid range sites of open grassland savannah in the portion of the County adjacent to the San Joaquin Valley. Conditions vary, depending upon the mean sea level, altitude, and the topography, as well as the distance from the ocean and bay.

The Livermore-Amador Valley Planning Unit of Alameda County is located in the San Francisco Bay Region of Central Coastal California. The 418 square mile area is bounded on the north by Contra Costa County, on the east by San Joaquin County, on the south by Santa Clara County, and on the east by the City of Fremont and Eden Township.

The Livermore-Amador Valley is the principal feature of the Planning Unit, as the site of urban settlement in the communities of Livermore, Pleasanton and Dublin. The Valley, which occupies the northwest quadrant of the Planning Unit, is generally surrounded by hilly to mountainous terrain. Major breaks in the hills include Dublin Canyon, Niles Canyon, and Mission Pass, which provide access to the East Bay Plain of Alameda County and to major urban centers in the Bay area, and Altamont Pass, which is the principal access to the San Joaquin Valley.

B. NATURAL PHYSICAL ENVIRONMENT

1. Existing Conditions

a. Geomorphology

The Planning Unit is within the Diablo Range, one of several systems of ridges and valleys which comprise the California Coast Ranges. The Diablo Range, an anticlinal structure extending in a northwesterly-southwesterly direction, includes all of the Coast Ranges east of the San Francisco Bay basin and Santa Clara Valley. The range is not continuous but is broken by erosion and local structural variations. Topography throughout much of subparallel ridges and intervening, steep-sided, narrow valleys. This type of topography is typical of the southern portion of the Planning Unit, but the northern portion of the Unit contains the broad east-west trending Livermore-Amador Valley, surrounded by gently rolling hills to the north, east and immediate south.

The Livermore-Amador Valley area is divided into eleven physiographic areas. These areas, comprise the extensive Alameda Creek watershed above Niles, and therefore, include lands in Santa Clara County, and exclude portions of Alameda County east of Altamont Ridge. These excluded lands generally share geologic and topographic characteristics of adjoining areas within the watershed.

Livermore Valley (nominally Livermore-Amador Valley), one of the largest intermontaine valleys in the Diablo Range, is an irregularly shaped area averaging about 3 miles in width and extending about 14 miles between Altamont Upland on the east and Dublin Upland on the west. The Valley floor slopes gently west at about 20 feet per mile, from an elevation of 600' on the eastern end to about 300' near the southwestern corner. Arms of the Valley extend to the south along channels of Arroyo del Valle and Mocho, and to the north along San Ramon, Alamo, and Tassajara Creeks.

La Costa, Sunol and Vallecitos Valleys are located south of Livermore Valley. Sunol Valley joins the larger valley along the channel of Arroyo de la Laguna. Sunol Valley slopes gently to the north from an elevation of 350' to 225'. La Costa Valley remains today as only the eastern portion of the original valley area; lower portions are now flooded by waters of San Antonio Reservoir. Vallecitos Valley lies northeast of Sunol Valley and occupies an area of about one square mile. The four-mile long valley ranges in elevation from about 580' at the north to 320' at the south end, and is joined to Sunol Valley along the stream course of Vallecitos Creek by a narrow strip of alluvium.

Hilly and mountainous areas which surround the valleys include Orinda upland to the north, Altamont upland to the east, Livermore and Sunol uplands and highlands to the south, and Dublin and Sinbad uplands to the west.

Orinda upland includes the gently rolling hills north of Livermore Valley. The hills gradually increase in elevation to the north to a maximum elevation of 2,500'.

Altamont upland includes the rolling, grass-covered hills bordering Livermore Valley and Livermore upland on the northeast. The middle portion of the upland reaches an elevation of 1,702' at Brushy Peak, but gradually increases in ruggedness and elevation to the south, reaching a maximum there of 2,265'. The upland separates Livermore Valley from the San Joaquin Valley.

Livermore and Sunol uplands include gently rolling hills underlain by the Livermore formation, present largely south of Livermore Valley. The Livermore upland increases in elevation to the south to approximately 1,200' where it joins the Sunol upland. Small hilly exposures of the Livermore formation, present within Livermore Valley and along its western border, are included as part of the Livermore upland. The Sunol upland surrounds both Vallecitos and La Costa Valleys and averages over 700' in elevation.

Sunol and Livermore highlands comprise the mountainous region south of Livermore and Sunol uplands. Terrain in the region is extremely rugged, rising to the south from elevations of 1,800' to almost 4,000' in the Mount Hamilton area of Santa Clara County. Livermore highland is drained by Arroyo del Valle and Arroyo Mocho. Arroyo Hondo, Calaveras Creek and Alameda Creek have their origin in Sunol highland.

Dublin and Sinbad uplands include the rugged hills west of Livermore Valley. The uplands reach maximum elevations of 1,629' along Pleasanton Ridge and 2,191' on Sunol Ridge. Dublin uplands includes eastern sloping hills along the west side of Livermore Valley and supports many small streams that drain eastward into the valley. Sinbad upland includes the entire watershed of Sinbad Creek which drains southeast into the north end of Sunol Valley.

b. Geology

Geologic formations within the Livermore-Amador Valley Planning Unit are primarily of sedimentary origin. Older, completely deformed and non-waterbearing formations, including Tertiary, Cretaceous, and Jurassic rocks, underlie uplands and highlands and are present beneath the valley floors at depths ranging from a few tens of feet to over 3,000'. Deposits of continental origin, ranging in age from Middle Pliocene of lower Pleistocene, occur as the Livermore formation. The formation is prominently exposed in the Livermore and Sunol uplands and consists of unconsolidated to semi-consolidated beds of gravel, sand, silt and clay. The Livermore formation is up to 4,000' in thickness. Deposits of Upper Pleistocene to Recent age are classified as Quaternary alluvium and consist of semi-consolidated to unconsolidated stream and lake deposited sediments including various mixtures of gravel, sand, silt and clay. Quaternary alluvium overlies the Livermore formation in most of the valley areas and overlies the semi-consolidated Tertiary (Tassajara) formation in the northern portion of Livermore Valley. Thickness of the alluvium increases from east to west and probably reaches its greatest thickness, approximately 700', just west of Pleasanton.

The Planning Unit is transected by a number of fault systems that generally strike northwest through and at the peripheries of the valleys. The dominant feature is the Calaveras Fault which bounds the west side of Livermore Valley and which has experienced displacement during historic times. The Calaveras, Pleasanton and Verona Faults are considered potentially active by the State Geologist. Livermore, Tesla, Mocho, Carnegie and Greenville Faults show some evidence of being potentially active, based on preliminary geotechnical studies, but have not been evaluated by the State Geologist.

c. Soils

Soils on the Planning Unit include upland and highland deposits formed on sedimentary sandstones and shales, valley deposits formed in alluvium of sedimentary rock origin, and soils developed on the exposed surface of the Livermore formation.

Clay, clay loam and loam soils, deposited as alluvium from sedimentary rock, cover the floors of Livermore and Sunol valleys.

Soils in the northern portion of the Livermore Valley, deposited as alluvium from soft sedimentary rocks of the Tassajara formation, are generally of finer texture than other valley soils.

Soils of the uplands are weathered from sandstones and shale of marine and continental origin. Clay loam and clay soils in uplands north and northeast of Livermore Valley are formed from soft sedimentary rocks. Soils in the highlands to the south are loams and gravelly loams weathered from hard metasedimentary and basic igneous rocks. Soils in the uplands west of Livermore Valley are silts and silt loams on moderately hard sedimentary rocks.

The Livermore formation is prominently exposed over the large area of the Livermore and Sunol uplands. The surface consists of soils formed in poorly sorted clay, sand and gravel.

d. Climate

The climate of the Planning Unit is semi-arid, with relatively hot, dry summers and cool, moist winters. The average summer temperature in the Livermore Valley is above 70 degrees F.; the average winter temperature is above 45 degrees F.; but freezing conditions occur at times.

There is wide variation in seasonal and annual precipitation; however, most falls between the months of October and April. Localized showers are infrequent, and most rain falls during general winter storms of moderate duration and intensity. At times rainfall is heavy enough or persistent enough to cause flooding.

During the winter the relative humidity is about 60 to 70 percent in the afternoon, increasing to 85 to 90 percent at night. Humidity is less in spring and summer and the driest part of the year is autumn, when humidity ranges from around 30 percent to nearly 50 percent at times.

is in direct contact with overlying stream channel deposits along the courses of Arroyo del Valle and Arroyo Mocho. In addition, there are many wells which penetrate both the valley fill materials and the Livermore Formation, allowing some degree of interconnection. The degree of hydraulic continuity between subbasins is mainly controlled by faulting.

The mineral quality of both surface and groundwater in Livermore and Sunol Valleys varies considerably in location, but is generally suitable for most beneficial uses. The quality of groundwater is generally a reflection of the surface water available for replenishment. The central and southern portions of Livermore Valley are replenished principally by good quality surface waters from Arroyo del Valle and Arroyo Mocho. Poor quality occurs in the eastern part of the Valley, a major source being recharge of sodium chloride waters from Altamont Creek. Another area of poor quality water of sodium chloride and sodium sulfate character occurs in the central part of the Livermore Valley southeast of Dublin. Here the poor quality of groundwater is related to clays rich in salts, which are believed to have derived from clay sink deposits, and possibly to the adjacent waste disposal ponds.

Groundwater quality problems in the Livermore Valley are associated largely with the occurrence of excessive concentrations of nitrate, boron, and total dissolved solids.

In Sunol Valley, the quality of groundwater is generally suitable for irrigation purposes.

f. Biotic Conditions

The Planning Unit falls within two major wildlife regions - the California Wildlife Region and the Diablo Range Wildlife Sub-Region (or, Central California Inner Coast Range). The first Region comprises most of central California and includes Livermore Valley and the uplands to the north, west and east. Characteristic communities include Valley and Foothill Woodland, Grassland, and Chaparral.

The Diablo Range Wildlife Sub-Region extends approximately from Livermore Valley as far south as Paso Robles, and is bounded on the east by the San Joaquin Valley and on the west by the Santa Clara and Salinas Valleys; the area is roughly contiguous to the Franciscan rock mass underlying the soil mantle. Ranging from north to south, the area exhibits, in simplified order, riparian, chaparral, oakgrassland and pine forest plant communities. Indicator plant species of the northern, Alameda County, border of the sub-region include Ponderosa Pine and Digger Pine. Digger Pine are found in the vicinity of Sunol Regional Park, but are seldom found in the Coast Range immediately north or west of this area. Digger Pine are found in increasing numbers southward along the Diablo Range, reasons being their need for relatively dry climates and well drained soils. Climatic conditions of the Diablo Sub-Region, and

of most of Inner Central California, require physiological adaption of native plants. Rainfall may average 25% to 30% less than the rest of the Bay Region; plants must also tolerate long, dry summers.

g. Biotic Communities

The concept of the community (plant, biotic, ecological), while the subject of considerable argument is a useful basis for describing plant and animal life in relatively large regions such as the Livermore-Amador Valley Unit. Biotic Communities overlap and interfinger along their fringes. Principal plant communities generally form a mosaic pattern with large areas of habitat transition. The classification table follows the system developed by Arthur C. Smith for the San Francisco Bay Region.

Vegetative habitat generally determines the presence of animal life; the distribution of a specie is determined by flood and water supply, cover, breeding habitat, and, tolerance to human encroachment. The following indicates animal species commonly found in habitats of the Planning Unit:

- 1) Urban Agriculture: Included are disturbance-tolerant mammals such as rabbits and certain other rodents, skunks, racoons, bats and deer. Birds, while abundant, are less diverse. Common species include crows, ravens, sparrows, finches and starlings.
- 2) Grassland: Resident wildlife include rabbits, other rodents, reptiles, and some birds. More ground squirrels and gophers are in areas with sparse grass coverage. Mice, moles, rats, and rabbits are in more lush regions. Grasslands provide important forage for many bird species which, through roosting and nesting elsewhere, are dependent upon the abundant supplies of seeds, arthropods or insects. Raptors, such as redtailed hawk, sparrow hawk, prairie falcon, and great horned owl, also depend upon the grassland to provide suitable hunting grounds for their diet of small birds and rodents.
- 3) Woodland and Chaparral: The open woodland-savannah habitat combines a grassland habitat with sufficient cover for ground dwelling predators such as coyotes, bobcats, badgers, skunks, weasels, and foxes, and also for birds of prey. Dense woodlands contain greater numbers of larger predators, as well as smaller animals. Game and song birds are common. Chaparral is inhabited by most of the woodland species, with deer, rabbits, rodents, quail, songbirds, hawks, and reptiles being abundant in new growth.
- 4) Riparian Woodland: Animals found primarily in this habitat are racoon, opossum, muskrat, and many anphibians. During dry summer months, the habitat provides water and cover to many animals not normally found in it, and throughout the year it provides food, water, cover, migration and movement routes and nesting sites for many birds and mammals.

The large lakes on the periphery of the urbanized Valley provide large enough water areas to attract waterfowl. Diving ducks use lakelets within the old gravel pits. Other water-associated birds, such as waders, are attracted to the lake margins and streams, and in the riparian area.

Community	Location and Examples	Characteristic Plants
I. Urban	Cities, towns, subdivisions, parks, etc.	Introduced trees and shrubs.

Local Expression

In the cities of Livermore and Pleasanton and the unincorporated but developed areas of Dublin and Sunol, and Castlewood native and alien species are easily observed.

Map Classification:

II. Rural/Agriculture	Cultivated crop lands and pasture.	All varieties of truck and row crops, fruit crops.
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Local Expression

Adjacent to the cities, the cultivated fields form a buffer zone around developed areas. Crops such as barley, wheat, alfalfa, grapes, and others are produced in the Livermore Valley. Vegetation in the fields is almost exclusively economic crops, while weeds and herbs occupy the fringes and irrigation canals. A large portion of the valley is dry farmed field crops, especially in the area north of Livermore and Interstate 580.

Map Classification: Agriculture

III. Riparian Woodland	In wooded canyons along stream courses.	Western Sycamore, Fremont Cottonwood, Red Willow, Arroyo Willow, Big Leaf Maple.
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Local Expression

In the Livermore Valley, a modified riparian woodland is best exhibited in the Arroyo del Valle drainage. Other watercourses such as the Arroyo Mocho, Arroyo Seco, and Arroyo las Positas exhibit various stages of riparian woodland due to the low rainfall runoff patterns in the eastern part of the Livermore Valley. Upland sections of the Arroyo del Valle and the Alameda Creek drainage above Sunol offer greater potential for riparian woodland development.

Map Classification: (Deciduous Woodland)

IV. Grassland	Non-cultivated areas in Livermore Valley and adjacent hills.	Blue Bunch Grass, Calif. Oat Grass, Foothill Sedge, brome grass, wild oats.
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Local Expression

In the lowlands and the rolling foothills adjacent to the cultivated agriculture, grassland communities abound; perhaps the best example of this community is in the rolling foothills north of Livermore in Doolan and Collier Canyons extending east through the Altamont foothills and south to Arroyo Seco. Isolated stands of oak savannah may also be observed in the Altamont Hills (e.g. Brushy Peak), which may be observed on aerial photos. In the upland areas south of Livermore, isolated grassy clearings may be observed interspersed with the broadleaf evergreen forests and chaparral communities. In the Altamont hills, the hot, dry slopes are exposed to the afternoon sun and frequently to strong drying winds.

Map Classification: Grassland

V. Freshwater Marsh	Scattered areas around springs, ponds, and sluggish streams.	Common Tule, Calif. Bulrush, Common Cattail, sedge;
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Local Expression

Species in this community may be observed in the Arroyo de la Laguna watercourse west of Pleasanton. It may also be observed in the stock ponds distributed throughout the planning area and along the fringes of Lake del Valle, San Antonio Reservoir, and Calaveras Reservoir.

Map Classification:

Community	Location and Examples	Characteristic Plants
VI. Oak Woodland	Inner coastal ranges from 400 to 3,000'; rolling hills along north and south edge of Livermore Valley lowlands.	At lower elevations, Valley Oak, Coast Live Pine, at higher elevations. Throughout: Holly-leaf Cherry, Calif. Coffee Berry, Calif. Buckeye, Poison Oak.

Local Expression

Perhaps the most common triad of communities observed in the upland areas of the Livermore Valley are the grassland, chaparral, and the oak woodland communities. Each of these, along with stands of broadleaf evergreen forests, form the mosaic patterns observed in aerial photos. The oak woodland is sometimes called oak savannah because of its resemblance to the savannahs of other arid regions. In this community, the Valley Oak and the Coast Live Oak (*Quercus agrifolia*, *Q. lobata*) predominate and form an open canopy under which grasses and herbs common to grassland communities grow. Other species associated with the Oak savannah are Holly-leaf Cherry, California Coffee Berry, Buckeye, and Poison Oak.

An isolated example of this community would be the Brushy Peak area, although it may be observed throughout the upland areas south of Livermore.

Map Classification: Oak Woodland and Miscellaneous Conifers

VII. Chaparral	Higher dry slopes and ridges generally throughout the area.	Chamise, Scrub Oak, Holly-leaf Cherry, Buckbrush, Calif. Coffee Berry, manzanita, wild lilac.
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Local Expression

Southwest and west-facing slopes are subject to a greater degree of desecration than others, since they absorb the full impact of the sun. Rainfall may be between 14 and 25 inches annually, most occurring in January, February, or March. In these areas, the chaparral community appears. Such species as Chamise, Scrub Oak, Holly-leaf Cherry, Buckbrush, California Coffee Berry, various species of manzanita, and wild lilac (*Ceanothus*) characterize this community. In the chaparral, there are species which closely associate with one another such as California Coffee Berry, California Sagebrush, and Sticky Monkey-flower. Other similar associations may be observed in the chaparral and oak woodland.

Chaparral brushland may be observed in the upland areas south of Livermore. It is easily recognized by the presence of manzanita.

Map Classification: Chaparral

VIII. Broadleaf Evergreen Forest	On higher hills from 200 to 2,500' in Diablo Range.	Tan oak, Calif. Laurel, Madrone, Calif. Buckeye, Golden Chinquapin, Coast Live Oak, Douglas Fir, Digger Pine.
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Local Expression

Examples of this community are widely distributed and locally abundant on northeast and east-facing slopes between 200 and 2,500' in the upland areas south of Livermore and Pleasanton. Similar conditions prevail in the East Bay Hills, where the species characteristic of this community may also be observed together. Species such as Tanbark Oak, California Bay Laurel, Madrone, California Buckeye, and Coast Oak typify the overstory in this community. Rainfall usually averages between 25 and 40 inches annually; evaporation or evapotranspiration from ground surface and plant leaf surfaces is reduced by the northeast-facing slope and the shade of the overstory of trees.

Map Classification: (Oak Woodland)

2. Resources and Constraints

A. Geologic Resources and Hazards

1) Mineral Resources

The major mineral resource of the Planning Unit is sand and gravel deposits. Other minerals present, and for which extraction has been reported, are petroleum, chromite, fireclays, coal, manganese, and silver.

a) Sand and Gravel Deposits

At least three extensive gravel beds, separated by thick clay layers, underlie the Livermore-Amador Valley. The uppermost gravel layer, which is also the upper aquifer, comprises the resource presently available for harvesting.

The upper layer is thickest in the southern portion of the Valley. Deposits are primarily premium aggregates - hard, tough, dense, chemically stable, and with a rounded, unpolished, shape which gives a more workable concrete mix with less cement and less care than concrete made with angular aggregates.

Four companies - Kaiser, Rhodes and Jamieson, Lone Star, and Cal Rock - presently harvest sand and gravel through quarrying operations in the area between Arroyo del Valle and Arroyo Mocho, and between the cities of Livermore and Pleasanton. County use permit restrictions, designed to protect groundwater resources, limit harvesting to the upper aquifer. Operators have permits to extract over 300 million tons of aggregates from 2,700 acres of land in the Valley. Of this, approximately 1,500 acres are being mined or have been depleted. Most of the unmined land lies north of present operations, where the upper aquifer thins.

The value of gravel resources in the Livermore-Amador Valley is enhanced by two factors. First, they constitute a large reserve of premium aggregate centrally located near urbanizing portions of the Bay Region and in proximity to rail and freeway access, thereby decreasing the cost of transportation, a major component of cost of commercial sand and gravel. Secondly, the covering of other deposits in the region by urbanization (or conflicts with urban encroachment causing termination of operations) increases the value of the remaining close in deposits.

Expansible shale, utilized as a lightweight aggregate, has been quarried from cretaceous strata below Sunol in Niles Canyon, and gravel was once quarried from the conglomerate present in the undifferentiated Miocene formation west of Foothill Road along the Gravel Pit Fault.

b) Other Mineral Resources

Seven wells, all located east of Livermore, intermittently produce highgrade crude oil at the rate of 275 barrels per day. Other minerals which were once mined in the Planning Unit include chromite (Cedar Mountain), high grade fireclays and coal (Tesla area), manganese (Cedar Mountain and Rocky Ridge), and silver (Corrall Hollow).

2) Geologic Hazards

Geologic hazards include losses and potential losses associated with seismic activity, including ground shaking, fault displacement, ground failures, and landsliding which may or may not be seismically induced.

a) Seismic Hazards

The entire Livermore-Amador Valley Planning Unit would be strongly shaken by a significant earthquake on the Calaveras Fault. The area would also experience moderate to strong ground shaking during a major earthquake on the active Hayward and San Andreas faults located, respectively, about 10 and 30 miles to the southwest. Local sites which are underlain by deep zones of loose, saturated alluvium would be subject to higher amplitude, more damaging ground motion than sites underlain by bedrock.

The risk of loss due to fault displacement is greatest very close to the trace of Calaveras Fault, which has experienced historical, recent displacements. Renewed displacement could possibly occur on other faults which show perceptible evidence of surface rupture, surface warping, or offsetting of geomorphic features to suggest geologically recent movement. Faults in this category include Pleasanton Fault, Livermore Fault, Greenville Fault, and the second strand of the Tesla Fault. Studies for the Atomic Energy Commission also identify as potentially active a number of faults which show no signs of historical or geologically recent movement but which would experience displacement under stresses induced across them by movement on the Livermore Fault, Greenville Fault, and second strand of the Tesla Fault.

Ground failures such as soil liquefaction and landsliding could be experienced within the Planning Unit as a result of a major earthquake. Soil liquefaction could be experienced in scattered valley areas underlain by unconsolidated, recent alluvial deposits containing a high water table. Landslides would most frequently occur on steep mountain slopes in the Sunol and Livermore highlands or in portions of the Orinda, Livermore and Sunol uplands underlain by the Livermore and Tassajara formations, areas also most potentially subject to landslides following intense rainfall.

b) Landsliding

Landsliding has occurred in much of the upland and highland areas of the Planning Unit. Most landslides are of an earthflow type limited to the relatively shallow zone of soils and deeply weathered rock. The plastic clay soils over the Tassajara formation and the deeply weathered rocks are particularly susceptible to landsliding. Areas of steep slopes underlain by highly sheared Cretaceous marine shales adjacent to Calaveras Fault in the areas south and west of Pleasanton are subject to larger deeper seated, rotational type slides. Deep-seated landsliding is also prevalent in the steep canyon walls of Arroyos del Valle and Mocho, underlain by the Livermore formation and by Cretaceous rocks.

c. Soil Resources and Constraints

1) Soil and Agricultural Resources

a) Soils Resources

Most of the soils in the Livermore-Amador Valley Planning Unit are suited for some form of agricultural use. However, only certain soils have necessary physical, chemical and site characteristics which make them suitable for intensive agricultural production.

Prime or potential agricultural lands are those which have few conditions which restrict their use for the production of most kinds of crops. Prime agricultural land, as defined in Section 5120(c) of the California Government Code includes any of the following:

- All land which qualifies for rating as Class I and Class II in the Soil Conservation Service land use capability classifications;
- Land which qualifies for rating 80 through 100 in the Storie Index Rating;
- Land which supports livestock used for the production of food and fiber and which has an annual carrying capacity equivalent to at least one unit per acre as defined by the U.S. Department of Agriculture;
- Land planted with fruit or nut bearing trees, vines, bushes or crops which have a nonbearing period of less than five years and which will normally return during the commercial bearing period on an annual basis from the production of not less than two hundred dollars per acre;
- Land which was returned from the production of unprocessed agricultural plant products an annual gross value of not less than two hundred dollars per acre for three of the previous five years.

Potential prime agricultural lands are those which have the capacity of being made prime through normal agricultural investment and practices, and primary grazing lands are defined as "grassland soils" according to Storie's Generalized Soil Map.

Based on preliminary Alameda County Planning Department investigations, there are approximately 28,000 acres of land in the Livermore-Amador Valley Planning Unit which qualify for Class I or Class II rating in the Soil Conservation Service land use capability classification. Nearly all are within the flat to gently sloping Livermore-Amador and Sunol Valleys.

B. Agricultural Resources

In 1973 there were approximately 29,630 acres of cropland in the Livermore-Amador Valley area. This estimate, by the County Agricultural Commissioner, included 601 acres of vegetable crops, 372 acres of nut crops, 1,740 acres of wine vineyards, 10 acres of nursery products, 7 acres of cut flowers, and 26,628 acres of field crops, of which 14,000 were non-irrigated pasture land.

The County Commissioner estimates the gross value (which does not reflect net profits to the producers) of agricultural crops produced during 1974 in the Valley area to be \$5,131,000. This estimate was originally prepared for the Zone 7 District, which is roughly equivalent in area to the Livermore-Amador Valley Planning Unit. The estimated gross value represented about 14 percent of the total gross value (\$36,893,700) indicated for Alameda County. Cut flowers and nursery products, which accounted for more than half of total County gross agricultural crop receipts, are a very minor component of Valley production. Major Valley crops include barley, alfalfa, sugar beet and irrigated pasture field crops; tomatoes, cucumbers and miscellaneous vegetable crops; vineyards; walnut crops; and cattle and calves livestock.

2) Soil Constraints and Hazards

a) Limitations to Agricultural Uses

Soils with Soil Conservation Service land use capability classifications II through VIII have progressively greater natural limitations to farming and grazing uses, and are subject to progressively greater risk of damage when they are used. Class II soils have some limitations that reduce the choice of plants or require moderate conservation practices; Class III soils have severe limitations and/or require special conservation limitations; Class IV soils have very severe limitations that restrict the choice of plants. Classes V, VI and VII are generally unsuited to cultivation and have limitations that restrict agricultural use to grazing. Class VII soils have limitations that preclude their use of commercial production of plants and restrict their use to recreation, wildlife, water supply or esthetic purposes.

b) Limitations to Urban Uses

Losses due to erosion and to expansive soil are of statewide as well as regional and local concern.

° Soil Erosion

Soil erosion involves the wear and removal of material from one site and its deposition at another. The removal of soils through erosion can be damaging in sheet and gully erosion of land surfaces and the erosion of stream courses and banks. Deposition damage affects flood plains, rivers, lakes, reservoirs and may clog drainage structures. Activities of man frequently accelerate erosion-related damages and losses.

The vulnerability of natural soil types to erosion has been mapped by the U.S. Soil Conservation Service. Natural erosion activity in the Planning Unit ranges from low, in the extreme northeastern, Central Valley, corner of the Unit, to moderate, in the valleys and uplands, to high in the southern highlands.

° Expansive Soils

Expansive soils are materials which greatly increase in volume when they absorb water and shrink when they dry out. Expansion is most often caused by clay minerals, primarily montmorillonite and illite.

Highly expansive soils are principally located in the northern parts of the Planning Unit and include soil deposits formed on or as alluvium from sedimentary rocks of the Tassajara and Green Valley (Tassajara) formations. When buildings or other structures are placed on expansive soils, foundations may rise each wet season and fall each dry season. Movements may vary under different parts of a building with the result that foundations crack, various structural portions of the building are distorted, and doors and windows are warped so that they do not function properly.

d. Climatic Resources and Constraints

1) General Climatic Conditions

The mixing of Pacific Ocean and continental weather influences gives the Livermore-Amador Valley a climate with characteristics of both. The climate is favorable, and presents no major limitations, to a wide variety of urban and agricultural activities. The long summer drought is perhaps the most significant climatic limitation, inducing increased costs to provide for domestic, industrial and agricultural water needs, and producing conditions favorable to the spread of wildfires. Frost and air pollution limit potential for orchards and nurseries.

2) Air Quality

Climatological factors of importance to air quality conditions in the Valley include:

- Air temperatures;
- Frequency of clear, sunny days and calm, clear nights, conducive to photochemical initiation of the development of oxidants from reactive organics and oxides of nitrogen;
- Frequency of air temperature inversion conditions, conducive to the accumulation of oxidants; and
- The direction, velocity and frequency of winds.

In a typical year there are about 212 cloudless days in the Livermore-Amador Valley. Of these, about 153 occur in the months April through October when conditions of air temperature and inversion conducive to the accumulation of oxidants may develop. According to the Bay Area Air Pollution Control District, the number of days per year with conditions conducive to oxidant accumulation in the Livermore area ranged from 58 to 77 per year in the period 1967 to 1971, with the five year average being 68 days per year.

The pollution potential of the inland valley is very high. Surrounding elevated terrain in conjunction with temperature inversion frequency makes a closed box of the valley, in which pollutants may quickly reach high levels during periods of low wind speeds. Abundant sunshine and warm temperatures in summer are ideal conditions for the formation of photochemical pollution in the absence of local sources due to sea breeze transport of contaminants from westward urban areas.

While complex meteorological conditions hinder precise estimates of the relative contributions of local and imported pollutants, it is reasonable to assume that approximately half, and perhaps as much as three-quarters, of air pollutants in the Livermore Valley are locally generated.

Oxidant trends, in the table below, indicate a recent rise in the number of days the ambient air quality standards were violated in Livermore:

Number of Days Federal Standards for Oxidant were Exceeded

	1969	1970	1971	1972	1973	1974
Livermore	154	90	54	35	73	93
Oakland	15	19	12	5	12	6
San Francisco	1	8	3	0	2	4
San Jose	84	12	27	59	55	87

Source: Bay Area Air Pollution Control District, Oxidant Standard Comparison Handbook.

In addition to meteorological, locational and physiographic conditions which favor photochemical smog generation within the Livermore-Amador Valley, the recent rise in violations of Federal standards is also attributed to other factors including (1) rapid growth within the Valley, (2) increases in vehicular and stationary sources in the Valley, and (3) a lag in implementation and application of effective control measures.

c. Hydrologic Resources and Constraints

1) Surface and Groundwater Resources

Hydrologic resources in the Livermore-Amador Valley Planning Unit which are of state, regional and county concern include the Alameda Creek watershed which contributes a substantial source of water supply to the communities within and to the west of the Livermore basin and, within it, the Livermore Valley groundwater basin. Critical hydrologic resources outside the Planning Area include surface waters from the Sierra Nevada imported to the basin via the Mokelumne (to San Ramon area of Contra Costa County), Hetchy and South Bay Aqueducts, and the Niles sub-basin, the largest and most important groundwater sub-region in Alameda County. The Niles sub-basin is recharged by waters of Alameda Creek, most of which originate as releases from the South Bay Aqueduct and effluent discharges from wastewater treatment facilities in the Livermore-Amador Valley.

a) Livermore Valley Groundwater Basin

The Department of Water Resources indicates that, under most conditions, materials of the water-bearing series, which make up the entire valley floor of Livermore and Sunol Valleys, the lower portions of La Costa and Vallecitos Valleys, and in areas to the west, south, and north of Livermore Valley and east of Sunol Valley, yield adequate quantities of groundwater to all types of wells. The quality of the water produced ranges from poor to excellent, with most waters in the good to excellent range. All the high-producing wells in the Valley produce from the valley-fill materials. These materials generally produce an excellent quality sodium, calcium, and manganese bicarbonate water. Exceptions are local areas containing significant quantities of chloride or nitrate ions. Wells tapping the Tassajara Formation, north of Livermore Valley, yield only sufficient water, of moderately good quality, for domestic, stock, or limited irrigation purposes. Groundwater in the Livermore Formation is of sodium bicarbonate character and of good quality. All the deep wells in the eastern half of the Livermore Valley produce from this formation; and yields to wells are adequate for most irrigation, industrial or municipal purposes.

b) Niles Cone Aquifers

Niles Cone is a multi-layered aquifer extending westward from the north of Niles Canyon in Fremont and is the principal source of water supply for the Alameda County Water District. According to information developed by the State Department of Water Resources, approximately 16.5 percent of the total runoff passing down Alameda

Creek is discharged to the groundwaters of the Niles Cone. Because peak flows possess high turbidity, they are allowed to bypass the natural percolation beds in Niles Cone operated by the Alameda County Water District. A good percentage of recharged water, then is effluent discharged by wastewater treatment facilities in the Livermore-Amador Valley in addition to South Bay Aqueduct releases.

2) Flood Hazards

Flood hazards result from the likelihood of dam failure and heavy rainfall and the impact of these events on development and public safety. Only hazards associated with heavy rainfall are considered here.

Alameda County Flood Control and Water Conservation District has completed channel improvements for sections of major creeks located on the East Bay Plain. Major channels in the Valley are designed to carry runoff of the 100 year storm, or the magnitude of storm expected to occur once every 100 years and which has a one percent probability of occurring any given year. Areas in the Livermore Valley where flood control improvements have not been completed and which are subject to the risk of flooding from the 100 year storm include a section of Arroyo de la Laguna, south of Bernal Avenue and which extends to Sunol, and a section of the Arroyo Mocho east of the Southern Pacific Railroad tracks and which includes Tassajara and Chabot Creeks.

The U.S.G.S Interpretive Report No. 4 "Flood Prone Areas in the San Francisco Bay Region, California," (1973) developed from readily available information rather than from detailed studies should be undertaken to adequately describe flood area hazards. Areas within the Livermore-Amador Valley Planning Unit tentatively identified as subject to 100 year storm flooding include the flood plains of Arroyo del Valle, Arroyo Mocho, Arroyo Las Positas, Cayetano Creek, Arroyo Seco, Altamont Creek, Arroyo de la Laguna, and Alameda Creek, and portions of Amador and Sunol Valleys. Flood hazard mapping has been undertaken for the U.S. Department of Housing and Urban Development, in response to requirements of the Flood Disaster Insurance Act of 1973. Preliminary maps are available which provide flood hazard information necessary for local land use planning and plan implementation.

f. Biotic Resources and Constraints

1) Wildlife Habitat

Both riparian and marshland habitats are of state and regional concern. Riparian habitat benefits numerous wildlife species by supplying escape, roosting, resting and nesting cover. Because these areas lie along the bottom of canyons, in most cases they are the preferred areas for residences and roads. The riparian woodland community is highly susceptible to effects which endanger or destroy the plant community stability. This can result from loss of soil nutrients, soil moisture increase or decrease, change in existing plant community composition, endangered or destroyed regenerative capacity or plant community, and increase in plant community susceptibility to disease.

Marshland habitat is presently restricted to scattered areas around ponds, reservoirs and lakelets formed in old quarries, and along sluggish streams.

The Diablo Range Sub-region, with its northern terminus in the Livermore-Amador Valley Planning Unit, is considered an important wildlife region, representing unique combinations of plant and animal life from those available in the rest of the Bay Region. The Sub-region is an important mountainous ranching and wildland area, unbroken by major roads for over 1,100 sq. ft. miles. Animal communities associated with this sub-region are at present in reasonable balance with existing range, forage and habitat.

2) Rare and Endangered Wildlife

Species present in the Livermore-Amador Valley Planning Unit which have been designated as rare and endangered by the Department of Fish and Game include the Southern Bald Eagle, American Peregrine Falcon, and Alameda Striped Racer.

- Southern Bald Eagle (*Haliaeetus leucocephalus*), designated as endangered, has been sited throughout the mid-Pacific region, and specifically along the coast and interior of California about large lakes, reservoirs and wetlands. Decline in species population is attributed to indiscriminate shooting by hunters, removal of nesting trees, human disturbance of nesting and feeding areas, and contamination of food chain by pesticides.
- American Peregrine Falcon (*Falco peregrinus anatum*) is extinct as a breeding bird east of the Rocky Mountains. It once bred along the California coast and in the higher inland mountains. The endangered species has declined in population due to contamination of the bird's trophic level by pesticides, shooting by hunters, illegal taking by falconers, and other human disturbances.
- The rare Alameda Striped Racer (*Masticophis lateralis euryzanthus*) is found in the valleys, foothills and low mountains east of San Francisco Bay. Its habitat is generally chaparral, but can also include grassland, open woods and rocky slopes. It is considered one of the rarest snakes in the East Bay region and its decline is attributed to recent and significant reduction in habitat by construction and urban development.

Other species whose habitat could include extreme eastern portions (San Joaquin Valley) portions of Alameda County include:

- San Joaquin Kit Fox (*Vulpes macrotis mutica*) rare.
- California Yellow Billed Cuckoo (*Coccyzus americanus occidentalis*) rare.
- Blunt-nosed Leopard Lizard (*Crotaphytus wislizenii silus*) endangered.
- Giant Garter Snake (*Thamnophis couchi gigas*) rare.

3) Rare and Endangered Plants

The following species of vascular plants have been inventoried and rated as very rare and rare and endangered by the California Native Plant Society. Location of each within the Livermore-Amador Valley Planning Unit is indicated by U.S.G.S. 7.5 minute quadrangle.

- *Amsinckia grandiflora* Kleeb ex Gray (Large-flowered fiddleneck) - Midway quad.
- *Helianthella castanea* Greene (Diablo helianthella) - Tassajara quad.
- *Phacelia phacelioides* (Benth.) Brand - Mt. Boardman quad, Eylar Mountain quad, Lone Tree Creek quad, Tassajara quad.
- *Tropidocarpum capparideum* Greene (Caper-fruited tropidocarpum) Midway quad, Bethany quad.

Rare and not endangered species which are known to occur in Alameda County but which have not been specifically located by U.S.G.S. Quadrangle include:

- *Dirca Occidentalis*
- *Eriophyllum jepsonii*
- *Fritillaria liliacea*
- *Balsamorhiza Macrolepis*
- *Parvisedum Pentandrum*

4) Vegetation and Wildland Fire Hazard

In addition to the limitations presented by some wildlife species and their habitats, vegetation in the Planning Unit also presents a constraint because of its contribution to the wildland fire hazard. The behavior of wildland fires is affected by three primary factors: (a) fuel such as vegetation and structural improvements, (b) weather, (c) topography. The quantity of flammable vegetation, its moisture content and arrangement, the ratio of dead material to living vegetation, and its chemical content all affect how a wildfire burns. Three vegetative types which can be used to identify fuel loading for classifying the severity of the fire hazard are: woods-brushwood, scrub, and open (i.e. grassland).

"Woods-brushwood" is considered a Heavy fuel loading, "scrub" is considered Medium, and "open" is a Light fuel loading according to the State Division of Forestry. All three vegetative types are present in the Planning Unit.

3. Areas of Potential Concern

Areas of potential concern include those environmental resources and hazards of statewide, regional and county importance for which planning and implementation measures have been or are to be undertaken in order to minimize activities which have a detrimental effect on such resources and hazards.

a) State Policies and Guidelines

The Governor's 1973 Environmental Goals and Policy Report provides criteria for identification of locations of potential statewide critical concern. These criteria were developed in terms of the following 14 categories of resource or hazard areas, arranged into three broad groups.

Scenic, Scientific, Educational and Recreational Resource Areas

- a. Park, Reserve and Wilderness Areas
- b. Recreation, Access and Connecting Links
- c. Historic, Archaeological and Cultural Areas
- d. Wildlife Habitats
- e. Open Space Surrounding Metropolitan Areas

Resource Production Areas

- f. Forest Lands
- g. Agricultural Lands
- h. Mineral Areas
- i. Water Sources
- j. Energy Sources

Hazardous Areas

- k. Geologic Hazard Areas
- l. Fire Hazard Areas
- m. Flood Prone Areas
- n. Critical Air Areas

The California Division of Mines and Geology has responsibility for preparing development guidelines for Mineral Areas and Geologic Hazard Areas, while the State Office of Planning and Research is responsible for preparing guidelines for the remaining 12 resource or hazard categories.

b) Regional Policies and Guidelines

The Association of Bay Area Governments - Regional Open Space Plan - Phase II - identifies open space functions that might be served by planned regional open space areas:

Open Space for Managed Resource Production

- a. Prime agricultural lands and lands for specialty crops
- b. Land for grazing
- c. Lands for mineral production

- d. Lands for water supply
- e. Water areas for fish and marine life production

Open Space for Preservation of Natural and Human Resources

- f. Lands, tidelines, marsh and water areas for fish and wildlife refuge
- g. Notable geologic features
- h. Historical and cultural sites and places
- i. Areas to provide visual amenity

Open Space for Health, Welfare and Well-Being

- j. Lands to protect the quality of water resources, including ground-water
- k. Land for disposal of sewage, garbage, etc.
- l. Open Areas to improve airshed quality

Open Space for Public Safety

- m. Flood control reservoirs, flood plains, drainage channels, and areas below dams
- n. Unstable soil and fault areas
- o. Airport flight path areas
- p. Critical fire zones

Open Space for Outdoor Recreation

- q. Lands for developed recreation uses
- r. Lands for water-oriented recreation
- s. Lands for natural environmental experience
- t. Lands for scenic and recreational travel

Open Space for Shaping Urban Growth

- u. Lands to preserve community identity
- v. Lands to prevent inefficient urbanization

c. County Policies and Guidelines

- 1) Alameda County General Plan¹ Land Use and Circulation Elements establish policies for the following open space areas:

- Land and water areas having valuable scenic and natural resource qualities.
- Areas on land most suited to recreation needs, and routes that will connect urban areas to major park and recreation areas.
- Open lands to provide relief from intensively active urban areas and to provide separation both for communities and for areas of conflicting types of use.

¹Adopted May 26, 1966 as amended to August, 1976.

- Agricultural lands, insofar as agricultural use is economically feasible.

2) Open Space Element of the General Plan¹

General Plan open space categories include:

- Primary Open Space, including cultivated and uncultivated agricultural open space, land and water preserves, and residential-canyon open space.
- Connecting Open Space Corridors, including scenic routes, scenic route corridors, an existing and proposed riding and hiking trails.
- Secondary Open Space, including major open areas in quarry, airport and selected public use, and borrowed open space (preserve and agricultural land uses in adjoining counties).

County Open Space policies concern:

- Large, continuous areas of open space, protected from intrusion by development.
- Varieties of open space, including open space for public use and enjoyment and for protection of agricultural, wildlife habitat and scenic values.
- Areas of irreplaceable natural and man-made resources, including areas of topographic, geographical, or historical significance; land and water areas of outstanding natural scenic qualities, and outstanding views of natural or man-made significance.
- Open space around each community to limit urban development and provide community identity and which could include permanently protected watersheds, woodlands, agricultural lands, marshlands, and bodies.
- Park and recreation and natural areas adjacent to each community.
- Observation areas, from which outstanding vistas are available.
- Natural ridgelines and slope areas in excess of twenty-five percent.
- Existing and potential marine wildlife habitats, which should be preserved in a natural, undeveloped state, and depleted habitats adaptable to restoration.
- Quasi-public lands valuable for open space, such as watersheds.
- Surplus or excess government-owned lands in planned open space areas.

¹Adopted May 3, 1973.

- Natural resources within open space areas, such as mature trees, streambeds, bodies of water, and adjacent vegetation.
- Mineral deposits and earth, particularly as mining and grading would disrupt natural qualities of scenic open space areas.
- Fire Hazards.
- Erosion Hazards.
- Air Quality.
- Park and Recreation areas to serve projected population.
- Areas of outstanding scenic beauty, including vegetation, stream beds or water bodies, unusual topography or viewpoints.
- Agricultural lands, as shown on the Alameda County General Plan; unique crops endemic to specific agricultural areas in Alameda County.
- Shoreline and Bay open space areas.

3) The Park and Recreation Element¹ of the General Plan identifies areas in the County which have the greatest potential for county, regional, or state-wide recreational use, as well as semi-public areas of combined residential-recreational use.

Park and recreational areas to serve the county as a whole include:

- Natural areas providing beaches, large inland parks for pick-nicking, camping, hiking, boating, fishing, swimming, nature study, and other special features of county-wide interest and utilization.
- Historic monuments and unusual natural features.
- Special recreational facilities such as small boat harbors, riding and hiking trails within and connecting recreation areas, parkways and scenic drives, roadside rest areas, and cultural recreation facilities.
- Areas to provide for a full range of active, passive and cultural recreation activities.
- Areas planned and developed in conjunction with other conservation and development programs, including flood, erosion and watershed control, reservoir development.

¹Adopted June 12, 1956, amended to 1968.

Types of recreation and park facilities to be given consideration in the development of the county-wide system include, by function:

- Conservation of natural resources and endowments, such as watersheds, reservoirs, flood control channels and other waterways, scenic areas, forest and wildflower reserves, bird and game preserves.
 - Preservation of historical monuments, including buildings and sites.
 - Passive recreation facilities, including areas for sedimentary relaxation, picnic and camp sites, parkways.
 - Active recreation facilities, including playgrounds, playfields, golf courses, riding and hiking trails, camp areas, fishing ponds and streams, day camps.
 - Cultural and educational recreation facilities, including scenic areas, reserves and preserves, historical monuments, special facilities, nature areas, and community/cultural facilities.
- 4) The Scenic Route Element¹ of the General Plan sets policy guidelines for:
- Scenic Route Rights-of-way.
 - Scenic Route Corridors which extend beyond the route right-of-way, that are of sufficient scenic quality to be acquired by state or local jurisdictions, or are areas to which development controls should be applied for purposes of preserving and enhancing relatively nearby views or maintaining unobstructed distant views along the scenic route. The corridor could also include slope and utility easements, and, in selected areas, roadside rests, cycling, riding and hiking trails.
 - Areas Extending Beyond Scenic Corridors, including developed and undeveloped areas.

5) Conservation, Seismic Safety, Safety, and Noise Elements¹

The Conservation Element includes policies for:

- Water Resources
- Vegetative and Wildlife Resources
- Minerals, Extractive Resources
- Soils and Soil Erosion
- Other Natural Resources, including air quality and energy

¹Adopted May 5, 1966

²Adopted January 8, 1976

The Seismic Safety Element concerns areas and conditions of seismic hazard and outlines an ongoing program to achieve Element goals. The Safety Element establishes policies for fire hazards, flood hazards, environmental health hazards and geologic hazards. Areas of potential critical concern include:

- Fire hazard areas
- Areas subject to flood hazards
- Areas subject to geologic hazards such as landslide

Areas of concern to the Noise Element include:

- Noise sensitive land uses - residential, community care facilities, and any other use considered by the community to be sensitive to noise; and
- Existing or potential sources of noise impacts, including highways, airports, railroad and other transit facilities.

C. CULTURAL ENVIRONMENT

1. Land Use

This section provides a review of historical processes which have contributed to the current pattern of land use, and a general discussion of the overall distribution of uses and of the several components of the land use pattern. Past development trends and existing development patterns are essential bases for formulation of policies to direct future development and must be considered in relation to social, economic, and environmental conditions which have only recently undergone significant change.

Zoning, is considered in order to provide a degree of perspective to existing land uses and to also allow for convenient classification of substantial amounts of undeveloped land. The qualitative potential of vacant lands are considered herein where quantitative potential, particularly of residential-zoned lands, are considered, along with other development options, in the Land Use Policies Section.

a. Historical Background

The development of the Livermore-Amador Valley is reviewed in two phases. The first phase, extending from about 1870 to 1920, is characterized by limited, gradual growth based upon a local agricultural economy and effectively isolated from Bay Area urban centers. The second phase, beginning around 1920 and extending to the present, has been marked by an accelerating rate of development and changing land uses based upon economic and social integration with the Bay Area. Means of transportation have played a central role in the transformation of the Valley. In the late 1800's travel time to Oakland was one-half day by wagon or saddle. With the completion of Interstate Route 580 as a freeway, travel time has been reduced to about one-half hour.

During the first period of development, Livermore and Pleasanton functioned largely as farm service centers for the agricultural community surrounding them. The building of the railroads in the 1860's and 70's, and the location of stations at Livermore and Pleasanton created a basis for permanent urban settlement and town development proceeded rapidly thereafter. The two towns served an agricultural economy of livestock and grain farms, and only a limited amount of local manufacture and business could be supported by the early economy.

The development of viticultural and fruit and nut orchards in the 1880's and 90's provided a basis for more intensive agriculture and consequently the local economies expanded to meet the needs of increased agricultural economy. By the turn of the century this process was largely complete and the cities of Pleasanton and Livermore have grown, respectively, to populations of 1,500 and 1,000. Development was then stabilized for nearly 20 years at a level related to the needs of the surrounding agricultural community.

U.S. Census data show a population loss by the 1910-20 decade probably caused by the initial adverse effect of the early automobile on small cities and towns. Efficient transportation at this time allowed economic processes to be consolidated in larger cities. Rural and small town people were enabled to patronize larger cities for services and goods previously furnished locally.

The second phase of development began after 1920, when the automobile and improved road system reversed their initial effect and became the means for greatly enlarged zones of influence around the central Bay Region cities. From 1920 to 1930 the population increased from 6,204 to 8,832. Following a slow to negative rate of growth during the depression period, the Valley population showed an increase during the 1940's, induced by the national defense effort and by the location in the Valley of two military bases. Between 1940 and 1950 the population thus increased from 8,432 to 14,167.

Route 50, the major east-west highway through the Valley between Oakland and the Central Valley was built in 1938 and widened in the 1950-1960 decade and improved in 1955 to expressway standards and designated Interstate Highway 580. In the late 1960's Interstate 680 was completed from Dublin to Walnut Creek, and in the early 1970's was completed from Dublin to San Jose. These freeway connections significantly shortened travel time to existing employment centers in the San Francisco and East Bay areas and has had a push-pull effect on Valley growth; first establishing a pull on prospective homebuyers, and second, causing land prices to be bid up in anticipation of impending developability through improved access. The consequent pressure on agricultural economic viability and relative attractiveness to sell to developers has hastened the spread of suburban growth in the Livermore-Amador Valley.

Since 1960, growth in the Livermore-Amador Valley has typified suburban growth throughout the Bay Region, reflecting the most recent trend in regional development. From 1940 to 1950, population entering the Bay Region centered in the urban core. From 1950 to 1960 the urban core lost population and close-in communities of the East Bay and Peninsula experienced the highest population gains. In this decade population in the Valley increased at an average annual rate of 7.7 percent, to a 1960 level of 29,654. Since 1960 the most significant population gains have occurred in areas farthest away from the urban core - such as Fremont, Walnut Creek, Concord and the Livermore-Amador Valley. The 1960-70 decade saw substantial amounts of residential subdivision in Livermore and Pleasanton and growth of a new community in Dublin-San Ramon. By 1970 the Valley population had increased to 77,650, more than two and one-half times the 1960 population, and representing an annual growth rate for the decade of 10.0 percent. Substantial growth has occurred since 1970, although the rate has been drastically declining. Recently, new home construction has been close to a standstill, due to high interest rates and tightened financing terms; and HUD moratorium on government-assisted housing; increasing inflation affecting the housing producers; and local policies, controls, fees and lack of public services, such as sewerage services and school capacity, which resulted in local moratoria on the issuance of new building permits.

b. Distribution of Existing Land Use

The distribution of existing land use in the Valley is reflective of the region's developing residential character. Since the early 1960's urban expansion around the existing centers of Livermore and Pleasanton, and in the new community of Dublin-San Ramon, has been characterized by subdivision development. The predominant urban use is single family residential. Aside from major government-related industry, such as the three nuclear research facilities, there has been little industrial development relative to the amounts of residential growth. Commercial development has been commensurate with growing local needs, but residents still must travel outside the Valley for specialty goods. Sites for school, fire protection, park and other public services have generally been provided as needed although the communities have faced difficulties in financing capital improvements due to the rapid rate of residential growth, the limited amount of industrial assessed value, the loss of sales tax revenues, and the consistent defeat of capital improvement bond issues by the electorate.

Table III-1 below, indicates the general distribution of 1970 existing land use in the Livermore-Amador Valley Planning Unit. A total of 8,050 acres, or about three percent of total Planning Unit land area, were devoted to uses which are classified as urban-Residential, Commercial and Industrial. On the basis of current zoning, some 9,610 acres are classified as Vacant Urban; included are 5,300 acres zoned for residential use, 760 vacant areas zoned for commercial use, and 3,550 acres of vacant land

zoned for intensive industrial use. Public land use, including approximately 2,800 acres in community-serving public uses, and 44,790 acres in regional-oriented public, represented nearly eighteen percent of total Planning Unit land area. Cropland and Uncultivated-Undeveloped constitute the Valley's major non-public open space resource, with a combined area of 200,720 acres, equal to three-quarters of total Planning Unit land area.

Table III-1 - 1970 Existing Generalized Land Use, Livermore-Amador Valley Planning Unit, Alameda County, California

	Acres	Percent of Total
Total	267,470	100.00
Residential	6,320	2.36
Commercial	560	0.21
Intensive Industrial	1,170	0.44
Quarry	1,500	0.56
Public	47,590	17.79
Community Serving	2,800	1.05
Regional	44,790	16.74
Vacant Urban	4,610	3.59
Vacant Residential	5,300	1.98
Vacant Commercial	760	0.28
Vacant Industrial	3,550	1.33
Cropland	29,630 ¹	11.08
Uncultivated and Undeveloped	171,090	63.97

c. Residential Land Use

The Livermore-Amador Valley has developed at low residential densities typical of suburban areas of the Bay Region. In 1970 the density of development averaged 3.04 units per gross residential acre (gra - including residential building sites and residential streets) although densities averaged slightly higher for the three communities. In Dublin, the average was 4.73 units per gra, in Pleasanton 4.54, and in Livermore 3.47 units per gross residential acre. In the surrounding unincorporated rural residential areas, densities averaged about 0.5 units per gra (or two acres per residence).

Only about three percent of all residential land was in multiple development, while ninety-seven percent was developed at single-family suburban and low densities. The City of Livermore shows the highest percentage of medium and high density residential, with 4.3 percent of its residential lands so developed. In Dublin 2.5 percent, and in Pleasanton 3.8 percent of residential use were in medium and high densities. In the surrounding unincorporated rural residential areas, nearly all development was in suburban densities. While the Valley's predominantly single family residential growth has been most recent, it is similar to other areas in Alameda County which have developed since World War II.

¹Alameda County Agricultural Commissioner, 1974 Estimate.
Data by Alameda County Planning Department, January, 1976.

In the Livermore-Amador Valley, the adopted zoning ordinances of the cities of Livermore and Pleasanton and of Alameda County provide for an increase in the proportion of multiple residential development such that, at full implementation, distribution by density would include 86 percent suburban and low (single family) and 14 percent medium and high (multiple) density residential. Applied to existing 10,500 acres zoned residential, this equals 9,000 acres single family and 1,500 acres multiple.

In 1970, approximately half of single-family residential acreage had been developed at or near permitted densities, leaving approximately 4,500 acres vacant. Only about 12 percent or 1,500 acres of multiple-zoned lands had been developed to permitted densities. Forty-six percent remained vacant and a significant 42 percent were committed to residential uses of less than permitted density. This latter amount, totalling approximately 630 acres in 1970, consists principally of older, centrally located single family neighborhoods in Livermore and Pleasanton for which redevelopment to higher densities is proposed.

d. Commercial Land Use

The 1970 Land Use Study shows approximately 560 acres of developed Commercial Land use in the Planning Unit, provided at a rate of about 7.2 acres per thousand population. The majority of commercial land is located in the central districts of the two cities, in the developing commercial district of Dublin, and in a number of neighborhood and community centers serving residential areas. There is currently no regional shopping center or area serving Valley residents, although the City of Pleasanton is actively supporting development of such a facility near the intersection of Interstate 580 and 680 freeways.

Approximately 1,390 acres are zoned for commercial use. Of this, 40 percent were developed to commercial uses in 1970, 55 percent were vacant, and five percent were in residential use.

e. Industrial Land Use

Intensive industrial development in the Valley, spurred by the installation of three major nuclear research facilities in the 1950's, has not since kept pace with residential growth. In 1970, only about 20 percent of some 5,280 acres of industrial zoned land were developed. Of the nearly 1,180 developed acres, approximately 73 percent were utilized by the three principal employers - Lawrence Livermore Laboratory, Sandia Corporation, and General Electric Vallecitos Nuclear Center. Excluding these major facilities, intensive industrial land totalled about 200 acres, of which 25 percent were in Dublin, 16 percent in Pleasanton, and 60 percent in the City of Livermore.

In 1970 the City of Pleasanton had the greatest surplus of industrial land, with 1,190 vacant areas. The City of Livermore followed with 670 vacant acres, while Dublin has some 270 vacant acres of industrial zoned land. Significantly, there were 2,400

vacant industrial acres in the unincorporated area, of which about half constituted the undeveloped portion of the Vallecitos site, while the remainder was primarily zoned lands in the vicinity of the Lawrence Livermore Laboratory. With the exception of these unincorporated lands, most vacant industrial areas appear to be adequately served with public utilities, with trunk sewers extending to or through them, and adequately situated in relation to transportation facilities.

f. Sand and Gravel Quarries

Permits have been issued over a period of 18 years by Alameda County authorizing extraction of over 300,000,000 tons of sands and gravels by four major operators from 2,700 acres of land in the Livermore-Amador Valley. Of this, approximately 1,500 acres are being mined or have been depleted. Roughly 200,000,000 additional tons may be available in the area designated for Sand and Gravel extraction by the County General Plan. Some of this may not be available because of conflicts with nearby urban uses.

g. Public Land

Public lands total approximately 47,590 acres, representing approximately 18 percent of total land in the Planning Unit. As indicated by the following table nearly six percent of public land, or 2,800 acres, are Community Serving, including educational, general government, health care facilities, utility sites, flood control, and local park and recreation sites. Ninety-four percent of public lands are classified as Regional, including major facilities, utilities and open space areas which do not directly, or solely, serve resident needs of the Valley communities. Although classified as Regional facilities and utilities, on the basis of principal function, sites such as Camp Parks, the County Fairgrounds, AEC Site 300, the FCC Monitoring Site, and the water projects also serve major open space functions.

Table III-2 - 1970 Public Land Use, Livermore-Amador Valley
Planning Unit, Alameda County, California

	Estimated Acres (Rounded)	Percent of Total Public
Total Public	47,590	100.00
Community Serving - Total	2,800	5.88
Facilities - Total	880	1.85
Elementary and High School Sites	660	1.39
Junior College Site	160	0.34
General Government	50	0.11
Health Care and Other	10	0.02
Utilities	600	1.26
Sewage Treatment and Flood Control	600	1.26
Park and Recreation	1,320	2.77
Regional - Total	44,790	94.12
Facilities - Total	4,120	8.66
U.S. Army - Camp Parks	1,290	2.71

Table III-2 Continued

	Estimated Acres (Rounded)	Percent of Total Public
Santa Rita Rehabilitation Center	950	2.00
Veterans Administration Hospital	120	0.25
Livermore Municipal Airport	200	0.42
Vasco Road Solid Waste Site	150	0.32
County Fairgrounds	220	0.46
Atomic Energy Commission Site 300	1,060	2.22
FCC Monitoring Site	120	0.25
Other	10	0.02
Utilities - Total	8,230	17.29
Water Projects	5,900	12.40
Central Valley Water Project	560	1.18
South Bay Aqueduct	4,210	8.85
North San Joaquin County Project	1,130	2.37
Transportation - Total	2,330	4.90
Freeway Rights-of-Way	2,330	4.90
Open Space - Total	32,440	68.17
East Bay Regional Park District	7,940	16.68
San Francisco Water Department Watershed Lands	24,500	51.48

h. Cropland - Uncultivated and Undeveloped

Based on preliminary investigations by the Alameda County Planning Department, there are approximately 28,000 acres of land in the Livermore-Amador Valley Planning Unit which qualify for Class I or Class II rating in the Soil Conservation Service land use capability classification. A substantial amount of these prime agricultural lands have been lost to recent urban development. In the County as a whole, irrigated cropland fell from approximately 33,000 acres in 1955 to 19,500 acres in 1968. In the Livermore-Amador Valley, because new lands were irrigated simultaneous to urban growth, the acreage of irrigated croplands remained generally unchanged between 1960 and 1970, while urban lands increased by nearly 3,000 acres. In the same year, however, irrigated pasture and alfalfa decreased by 30 percent.

The Alameda County Agricultural Commissioner has estimated total crop acreage in the Valley to be approximately 29,630. This amount includes 601 acres a vegetable crops, 372 acres of nut crops, 1,740 acres of wine vineyards, 10 acres of nursery products, 7 acres of cut flowers, and 26,628 acres of field crops, of which 14,000 are non-irrigated pasture land.

The major, Uncultivated and Undeveloped category, representing nearly 64 percent of Planning Unit land area, includes all privately-owned and agriculturally zoned lands which are not currently in productive agricultural use. The majority of Uncultivated and Undeveloped lands are located in the rolling - to mountainous terrain which surrounds the Livermore-Amador Valley.

2. Transportation

a. Streets and Highways

Agencies responsible for the development of the road system in the Planning Unit include the State Department of Transportation, which constructs and maintains facilities in the State highway system; Road Department of the Alameda County Public Works Agency (Road Commissioner) which is responsible for the construction, improvement landscaping and protection of roads in the County highway system in the unincorporated areas, and the City of Livermore and City of Pleasanton road departments which assume similar responsibilities for the street system in their respective jurisdictions.

- California State Legislative Route Number 580 is in the State Freeway and Expressway System, is part of the Interstate Highway System (I-580) and is the primary access route from the Valley to employment centers in the San Francisco-Oakland-Hayward Area, and a principal route of travel between the Bay Region and the Central Valley. Route 580 is currently operating at capacity during peak commute hours. The Metropolitan Transportation Commission has translated the capacity of the present facility, plus 40 buses per peak hour, into a population level of 149,000 for the Valley. This estimate would be revised downward to reflect the current minimal bus usage.

Expansion of Route 580 through Dublin Canyon began in mid-1975. The current project includes eight improved lanes, but only six will be open to vehicular traffic. Of these six, two lanes will be reserved on weekdays for high-occupancy vehicles such as buses and carpools. An 80 foot median is to be reserved for future mass transit extension, which could be either BART or exclusive bus lanes of permanent status. The entire corridor is scheduled for completion by 1984.

The Metropolitan Transportation Commission's evaluation of the current project shows that sufficient capacity would be available to accommodate a Valley population of 180,000. MTC's evaluation of the originally proposed eight-lane freeway found a Valley population of 217,000 could be accommodated if the freeway and buses both were run at capacity.

- Trip Characteristics^{1/2}

There are three major components of Valley automobile travel: 1) through traffic, with neither origin nor destination within the Valley and generally comprising travel to or from the Bay Region on I-580 and I-680; 2) local trips, which are totally internal to the Valley or some part of it; and 3) external trips, which originate or terminate outside the Valley and which may or may not be work related. According to 1974 reports by the Metropolitan Transportation Commission¹ and by Arthur D. Little, Inc.,² approximately 12 percent of vehicle miles

¹Metropolitan Transportation Commission. An Evaluation of Improved Accessibility to the Livermore Valley and its Effects on Population Growth and Air Quality, Preliminary Staff Report Summary. November 1974.

²Arthur D. Little, Inc., Environmental Impact Report Supplemental Analysis: Population Growth and Air Quality in the Livermore-Amador Valley, for the Valley Community Services District, Stage III Wastewater Treatment Plan Enlargement. July 1974.

traveled (VMT) in the Livermore-Amador Valley area is generated by through traffic, approximately 24 percent results from local trips, including both intertown and intratown trips, and the remaining 64 percent of VMT in the Valley area is attributed to external trips having either an origin or destination in the Livermore-Amador Valley.

Table III-3 indicates estimated average day vehicle miles traveled in 1970 within the Livermore-Amador Valley area.

Table III-3

AVERAGE DAY VEHICLE MILES TRAVELED - 1970
LIVERMORE-AMADOR VALLEY AREA

	Residents		Nonresidents		Total	
	Miles (000s)	Percent of Valley VMT	Miles (000s)	Percent of Valley VMT	Miles (000s)	Percent of Valley VMT
Travel Within Valley						
Internal	320	24.4			320	24.4
External	524	40.0	315	24.0	839	64.0
Freeways	341	26.0	220	16.8		
Local Streets	183	14.0	95	7.2		
Through Traffic			152	11.6	152	11.6
VMT Within Traffic	844	64.4	467	35.6	1,311	100.0

Source: Arthur D. Little, Inc., Environmental Impact Report Supplemental Analysis: Population Growth and Air Quality in the Livermore-Amador Valley. July 1974.

Internal, or local Valley trips, include both work and non-work related travel and are basically of two types: intratown and intertown. Intratown trips take place on local streets within the community, while intertown trips include travel on arterials and freeways between communities. Both involve travel by private automobile, due to limited availability of public transit and a low auto passenger rate.

The major portion of both work and nonwork related local Valley trips are intratown, typically connected with schools, social visits and convenience shopping. Owing to the low density nature of Valley development, the physical separation of these three communities, and the lack of truly complete commercial services in each center, nonwork trips within the Livermore-Amador Valley tend to be comparatively longer than the similar trips in older and more compactly urbanized parts of the Bay Region.

Roughly half of all work related trips generated by Valley residents are internal to the Livermore-Amador Valley. Roughly three-quarters of these are intratown while one-quarter are inter-town local work trips. Data from the 1974 Livermore special census and 1975 Pleasanton special census indicate that 55 percent

of employed residents of these two cities work in the Livermore-Amador Valley. Approximately 74 percent of the total 15,022 employed in the Valley live and work in the same community. Some 9,027 income earners live and work in the Livermore area, while 2,161 live and work in the Pleasanton area.

The special census data also indicate that 3,834 Valley workers commute from their home community to jobs elsewhere in the Livermore-Amador Valley.

External trips include both work and nonwork trips, inbound (nonresidents) and outbound (residents). The destination of outbound trips depends on the point of origin within the Valley and on whether the trip purpose is work or nonwork.

At present, Valley residents in search of more complete commercial facilities often drive out of the Valley to Walnut Creek or Hayward rather than to another Valley community. Hayward is the destination of approximately 41 percent of all outbound nonwork trips, followed by Contra Costa County (Walnut Creek, Concord), Oakland, and Fremont.

Both 1970 Census and more recent special census data for Livermore and Pleasanton indicate that about half (47 percent in 1970) of employed Valley residents commuted to jobs outside the Livermore-Amador Valley. The special census data shows that approximately one-third of Livermore workers commuted, while nearly two-thirds of Pleasanton resident workers commuted to jobs outside the Valley/

Hayward is the principal destination of outbound work trips, followed by Oakland. Overall, 41 percent of work trips originating in the Livermore-Amador Valley have Hayward as the destination. Hayward is the destination of 35 percent of work trips originating in Livermore, and of 41 percent of outbound work related trips originating in both Pleasanton and Dublin-San Ramon. Oakland follows as the destination of approximately 18 percent, 21 percent and 20 percent of work trips originating, respectively, in Livermore, Pleasanton, and Dublin-San Ramon.

All outbound trips directed toward Hayward, Oakland, San Mateo County and San Francisco use I-580 west. In 1970 these amounted to 36,000 one-way trips per day. Approximately two-thirds of the trips directed to and from Fremont travel on Route 84 (Niles Canyon). They constituted 6,000 ADT. The remaining one-third use I-680 south.

Trips bound to and from Contra Costa County take I-680 north. In 1970 there were 11,000 such trips daily. Interstate 680 south is the route of choice between the Valley and Santa Clara County, and in 1970 handled some 9,000 ADT. Trips originating or terminating in Livermore would use I-680 south of the Route 84 (Vallecitos Road) turnoff, and enter Livermore via Route 84. Trips bound to and from Pleasanton and Dublin-San Ramon would travel exclusively on I-680.

In 1970, approximately one-third of jobs in the Valley were held by persons who commuted from outside the Valley. Approximately 30 percent of inbound work trips originated in Contra Costa County, 30 percent in Hayward, 15 percent in the Fremont area, 12 percent in Oakland, and the remainder (approximately 13 percent) elsewhere in the Bay Area.

Public Transportation

There is no generally available local public transit service. Those transit services which are available in the Livermore-Amador Valley are very specialized and oriented to specific directional and destination movement. Existing public transportation services are provided by three taxi operations; Greyhound and Sierra Lines, and BART/AC Transit.

The Bay Area Rapid Transit District (BART) provides feeder bus service from Hayward, Bay Fair and Walnut Creek BART stations to points in Dublin, Pleasanton, and Livermore.

The average Valley to station travel time is 40 minutes. Average daily patronage during a sample week was found to be approximately 650 persons, for an average of 3,250 passengers per week.

A final route for BART service has been selected by the Livermore-Pleasanton BART Extension Board, but has not been adopted by the BART Board of Directors. At present, the project status is only preliminary, and must compete for funding priority with several other recommended projects.

Greyhound has two terminal facilities in the Valley--one in Dublin and the other in Livermore, passenger travel from the Valley on Greyhound is light.

Sierra Lines is a charter bus operation which operates buses over six routes, all of which transport employees to and from the Lawrence Livermore Laboratory.

The healthcare minibus provides transportation to and from health care clinics, providing access to the Mental Health Clinic, Health Care Center, Public Health Center, and Pleasanton Convalescent Hospital.

The three taxicab companies serving the Valley out of the City of Livermore are Livermore Yellow Cab, Tri-Valley Cab Company, and Yellow Cab of Livermore. Taxis are the most expensive form of public transportation, and only one taxi company operates after 6:30 p.m.

c Rail Freight Service

Neither Southern Pacific nor Western Pacific Railroad companies provide passenger service to or through the Valley. Rock, sand and gravel producers account for about 95 percent of locally generated freight, and local wineries, building materials and publishing companies accounting for the remainder of freight service, originating and/or terminating in the Valley.

A 1973 joint decision provides for the relocation of Southern Pacific tracks in Livermore to a site parallel to and 20 feet south of the Western Pacific mainline.

d. Air Facilities

The Livermore Municipal Airport, a General Aviation Airport, has one 4,000 feet runway, a taxiway, terminal and F.A.A. control tower. Clear zones extend from each end of the runway for a distance of 2,000 feet. Currently, about 219 general aviation aircraft are based there, and 165,600 operations were handled in fiscal year 1974. A Master Plan study prepared for the airport forecasts a 4.0 percent annual growth for the airport to 1995. This rate of growth would result in 500 based aircraft and some 340,000 annual operations by 1995.

e. Equestrian, Hiking and Bicycling Paths and Trails

The cities of Livermore and Pleasanton, Alameda County and the park districts have developed and adopted trailway plans. In Livermore there are about seven miles of hiking and bicycle trails. Pleasanton's system presently includes about eleven miles of hiking and bicycle facilities. The County Road Division has improved nearly six miles of bikeways, and the County's Preliminary Bikeways Plan proposes approximately 140 miles of bikeways in the Planning Unit, as part of the countywide system. Implementation of the system will include local, regional, county and state participation.

3. Public Services

Public Services included in this section include facilities and utilities, presently available in the Livermore-Amador Valley Planning Unit of Alameda County. These services include functions typically associated with urban, rural and open space development and are significant in considerations of alternate conservation and development policies.

Services, and their physical facilities, are supplied within the Planning Unit by a complex arrangement of public and private organizations. For convenience, the following matrix (Figure III-4) lists major agencies and organizations and indicates the general category, or categories, of service which each presently provides.

While the provision of most public facilities is the responsibility of local public or semi-public agencies, certain improvements and facilities such as local roads, sewer and water line extensions, provisions of park sites, and in some cases reservation of school sites, are required of the developer under provisions of the ordinance codes of the two Cities and the County. These local codes, and in some cases regional and state policies, also serve to regulate individual, private services, particularly individual sanitary and water supply systems, in the respective city and County jurisdictions.

PUBLIC SERVICES - AGENCIES AND MAJOR SERVICE FUNCTIONS^a

^aNot including service regulatory functions.

²Not including general governmental functions.

³Not including United States government.

4. Not including general State governmental functions or service functions not available in the Livermore-Amador Valley Planning Unit.

*Includes private physicians, private clinics, and Valley Memorial Hospital.

⁶Includes three taxi companies and two private bus companies.

- Includes private schools and public, semi-public and private day care centers and homes.

8 Members Livermore-Amador Valley Water Management Agency.

The matrix identifies fifteen separate property taxing jurisdictions providing some form of service in the Planning Unit; this count does not include Federal or State agencies which are also active in the area but which do not directly affect the property tax. In addition, there are six private organizations which provide important public services and facilities.

Most of the public agencies and private organizations are special-purpose or even single-purpose entities. Only three public agencies--Alameda County, the City of Livermore and the City of Pleasanton--have authority to regulate land use in addition to their multiple service functions, and only the cities have the ability to directly manage, for all or part of their area of political jurisdiction, provision of critical water, sewer and road services in coordination with implementation of adopted development policies.

Unincorporated urban and rural areas of the Planning Unit receive basic street and highway services from the County (in addition to special services--education, fire, and health care--and government service which are generally provided to all of Alameda County), but must otherwise rely upon special districts for sanitary sewer, water supply, park and recreation and structural fire protection services. Because of the complex arrangement of service-providing and land use regulatory functions in the Planning Unit, the need for coordination of actions and for a basic and workable agreement upon goals is essential, especially in the unincorporated areas due to the separation of service-providing and land use regulatory powers.

a. Water Supply

i. Organization and Responsibilities

There are five water retailers, one water wholesaler, and numerous private wells within the Livermore-Amador Valley Planning Unit. Treatment and wholesale distribution of imported water and distribution of local groundwaters is the responsibility of Zone 7 of the Alameda County Flood Control and Water Conservation District.

Municipal supply is provided by four retail service agencies: the California Water Service Company, the City of Pleasanton Water Department, the City of Livermore, and the Valley Community Services District. The East Bay Municipal Utility District supplies water to the San Ramon area of VCSD in Contra Costa County, and the City and County of San Francisco Water Department serves the community of Sunol the Castlewood area and the G. E. Vallecitos Laboratory and Livermore Lawrence Laboratory. Agricultural and gravel quarry uses operate the majority of private wells, and pump groundwater to meet their needs. Domestic use of groundwater through private well operation occurs in most outlying rural residential areas.

ii. Standards and Criteria

Adequate Supply

The Alameda County County Plumbing Code requires that a supply of water which is adequate in both quality and quantity.

Such water supply shall be a public water system (conforming to the provisions of Division 5, Part 1, Chapter 7, Health and Safety Code of the State of California) or an approved private water supply. The quality of any such private water supply shall comply with U.S. Public Health Service Drinking Water Standards.

The point at which small systems and individual wells must be consolidated to public systems in order to insure an adequate supply of good quality is difficult to ascertain. One general rule, based upon economic conditions, has been established in the U.S. Public Health Service's Environmental Health Planning Guide which provides that service is justified for population densities of over 2,500 persons per square mile, normally justified for densities over 1000 persons per square mile, and not normally justified for less than 1000 persons per square mile.

The quality of water necessary to a given consumer depends upon the use of water:

- Certain industrial processes require virtually pure water while others can satisfactorily use water containing many impurities.

Water for domestic use must first be safe to drink, but should also be of good enough quality to be palatable. For health considerations, limits are placed upon metals found in water supplies which have toxic properties. For other properties, such as hardness, no health effects are known for limits are often based on individual tastes. Table III-5 gives drinking water standards set by EPA and the California Public Health Service.

TABLE III-5
DRINKING WATER STANDARDS

<u>Constituent, mg/l</u>	<u>EPA Interim Primary Standards, March, 1975</u>	<u>Calif. P.H.S., 1975 Limiting Concentrations</u>
TDS	-	-
Chloride	-	-
Iron	-	0.3
Manganese	-	0.05
Sulphate	-	250
Nitrate and Nitrite	10	10
Fluoride	1.8	1.2
Cyanide	.2	0.2
Arsenic	0.1	0.1
Copper	-	1
Zinc	-	5
Barium	1.0	1.0
Cadmium	0.01	0.01
Chromium	0.05	0.05
Lead	0.05	0.05
Selenium	0.01	0.01
Mercury	-	0.005
Silver	-	-

Hardness is perhaps the primary problem to domestic users, and because relatively hard water gives rise to the use of home water softeners, can cause problems to wastewater treatment plants. The following table shows the qualitative classification of water hardness with respect to their concentration of calcium (CaCO_3).

TABLE III-6
WATER HARDNESS
QUALITATIVE CLASSIFICATION OF DOMESTIC WATER SUPPLIES

<u>Hardness as CaCO_3</u>	<u>Use</u>
120 mg/l	Very good for domestic use
120 - 200 mg/l	Usually does not require softening
200 mg/l	Very hard - soap usage and scale buildup in plumbing excessive

- Water for agricultural use is classified according to salt content, including concentration of problem salts such as boron. The following table contains the U.S. Department of Agriculture's qualitative classification of irrigation waters.

TABLE III- 7
QUALITATIVE CLASSIFICATION OF IRRIGATION WATERS

Chemical properties	Class 1 (excellent to good)	Class 2 (good to injurious)	Class 3 (injurious to unsatisfactory)
TDS mg/l	700	700-2000	2000
Chlorides, mg/l	175	175-350	350
Sodium, percentage	60	60-75	75
Boron, mg/l	0.5	0.5-2.0	2.0

Class 1 - Regarded as safe and suitable for most plants under most conditions of soil and climate.

Class 2 - Regarded as possibly harmful for certain crops under certain conditions of soils or climate, particularly in the higher ranges of this class.

Class 3 - Regarded as probably harmful to most crops and unsatisfactory for all but the most tolerant.

Source: Brown and Caldwell, Alameda Creek Watershed Above Niles, and Soil Conservation Service, Soil Survey, Alameda Area.

• Water Supply

Basic Water supply is from precipitation and imported sources. Precipitation provides for groundwater recharge and delayed recharge through release of collected surface runoff. The South Bay Aqueduct is the principal source of imported water supply to residents of the Livermore-Amador Valley. Very little surface water is used directly. Table III-8 shows amounts of water supplied from local wells, the South Bay Aqueduct, Del Valle Reservoir and the San Francisco Water Department to users in the Planning Unit.

TABLE III-8
WATER SOURCES AND DISTRIBUTION, 1973-74

Water Sources	Water Users - acre feet							
	Pleasanton	Livermore	VCSD	Sunol	Agriculture	Quarries	Industry	Recharge
Groundwater:								
Zone 7 wells	3,700		1,800					
Pleasanton wells	2,200							
VCSD wells			600					
CWSC wells		2,500						
Private wells					8,500	5,000		
South Bay Aqueduct		5,700			1,500			2,100
Del Valle Reservoir								5,000
San Francisco Water Department				500			1,400	

Source: Livermore Amador Valley Water Management Agency.

• Capacity of Supply

Capacities of the groundwater basin, contractual agreements, and physical capabilities of the distribution system determine the ability of wholesale and retail agencies to meet water supply demands.

The following table indicates the projected water supply for 1980, 1990, and 2000. Supply includes an average safe annual groundwater yield of 18,000 acre feet per year, availability of 6,000 acre feet per year of Del Valle Reservoir waters, and increments of South Bay Aqueduct entitlements, equal to 46,000 acre feet per year in 1997 and used for the year 2000 projections. The projection assumes no decrease in groundwater recharge due to urban development.

Table III-9
Projected Water Supply
Livermore-Amador Valley

Date	Supply
1980	46,000
1990	56,000
2000	70,000

Source: U.S. Environmental Protection Agency, Draft Environmental Impact Statement Livermore-Amador Valley Wastewater Management Program, October 1975.

The new Del Valle treatment plant is considered adequate to meet current demand. Further increases in treatment capacity will be needed, however, to permit full municipal utilization of Zone 7's maximum entitlement to South Bay Aqueduct waters.

- Quality of Water Supply

The quality of water used in the Livermore-Amador Valley varies considerably depending on its source. In general, the quality of imported waters is better than that of the groundwaters, especially with respect to total dissolved solids (TDS), chlorides and hardness. Many supplies are now mixes, blends and two or more sources of different quality, so that the quality of the mix depends on the relative amounts of each source. All supplies include amounts of better quality imported South Bay Aqueduct waters.

- D. Sewer

Wastewater management within the Livermore-Amador Valley Planning Unit is a critical concern of local, regional, state, and federal agencies. It has been extensively studied in the past, and further studies are currently on-going. This discussion summarizes the existing sewage treatment situation, focusing on those aspects which presently affect decisions on urban growth patterns. The lack of adequate sewerage facilities can severely restrict new development in the planning unit.

- i. Authority and Programs

Several agencies have a direct or indirect effect upon the provision of sanitary sewer services in the Livermore-Amador Valley Planning Unit.

- The Environmental Protection Agency establishes, enforces and, where necessary, implements federal water quality standards. The Agency also administers federal grants for planning and construction of wastewater management projects. Because increasingly sophisticated treatment processes which are now being required are extremely costly, most sewage treatment facilities being constructed today are at least partially supported by federal funds. Under the Clean Air Act, the Agency also has a second mandated goal to protect and preserve the nation's air quality, such that the goal of preserving water quality must be pursued jointly with the goal of protecting and preserving air quality.
- The functions of the State Water Resources Control Board include the control and prevention of water pollution, and the enhancement of water quality. In carrying out this task, the Board has several important functions and powers. The Board:
 - Controls the direction of the Regional Water Quality Control Boards by reviewing their actions;
 - Administers the Clean Water Grant Program in California;
 - Develops priority lists for projects which will receive federal grant funds and state bond funds for sewage treatment facility construction; and
 - Is responsible for the development of water quality standards for the State.

- The Regional Water Quality Control Board for the San Francisco Bay Region provides the local implementation for California's water quality control program. The Board formulates water quality control plans for the waters of the Region, establishes and enforces waste discharge requirements, and implements policies of the State Water Resources Control Board.
- The Association of Bay Area Governments is charged with the responsibility of regional review for federal grant applications, and also carries out areawide planning in a number of areas, including water, sewerage and drainage development.
- Agencies directly responsible for the planning, construction maintenance of local sewer systems and facilities include the City of Pleasanton, City of Livermore, and Valley Community Services District. Under a 1974 joint exercise of powers agreement the three agencies formed the Livermore-Amador Valley Water Management Agency. It is the Agency's responsibility to develop, evaluate, and select a system to meet the waste discharge requirements promulgated by the Regional Water Quality Control Board for the Livermore-Amador Valley.
- Septic tank usage in the Valley is presently controlled by the Alameda County Health Department, guided by state regulations, the uniform Plumbing Code, and local ordinances. The Department oversees the issuance of permits for septic tank construction and usage in order to protect the public health. This primarily involves monitoring bacteriological quality of private wells to determine possible contamination and insuring leachate does not reach ground surface from septic tanks.

The objectives, policies, standards, and or criteria promulgated by these agencies affect sewage treatment and capacity and private disposal systems.

The Regional Water Quality Control Board, through a series of resolutions, orders, and control plans, has defined quality objectives for Alameda Creek, the Livermore groundwater basin, Niles Cone, and San Francisco Bay, and established waste discharge requirements and prohibitions and effluent limitations affecting the three sewerage agencies in the Valley--the City of Livermore, City of Pleasanton, and Valley Community Services District. Each has a current Regional Board resolution regulating their effluent quality and mode of discharge. Similarly, the small private treatment entities, including Castlewood Corporation, Vallecitos Nuclear Research Laboratory, and Veterans Administration Hospital are also under waste discharge requirements, but these are less strict than those applicable to municipal dischargers.

Sewage Treatment Capacity

Present objectives for sewage treatment capacity reflect policies of the State Water Resources Control Board and Federal Environmental Protection Agency. As administrator of the State Clean Water Grant Program, and as State clearinghouse for certification of local public and private projects to the Environmental Protection Agency for wastewater treatment works construction grants, the Board has an adopted policy to fund and certify only projects or portions of projects "to accommodate normal anticipated growth and reasonable reserve capacity." In the Livermore-Amador Valley, an EPA-designated "Air Quality Maintenance Area" and "Critical Air Basin" it is Board policy to provide for treatment capacity to serve ten-year population needs as based on Department of Finance Series "E" fertility and 0 (zero) net in-migration projections. Significantly, State regulations also provide that "no allowance be made for capacity to serve new independent and undeveloped areas, or to serve areas which were, or are, designated primarily as a separate unit independent from the already existing community, unless the division finds that such allowance is necessary for protection of water quality."

At present, it is possible, under State guidelines, for local sewer service agencies to fund treatment capacity beyond that fundable under State or federal guidelines. However, particularly in designated critical air basins, such an action could possibly disqualify the project for federal grant assistance.

Septic Tank Systems and Individual Community Sewage Systems

The Regional Water Quality Control Board Resolution No. 768 requires the County to regulate the use of septic tank and leaching field systems and other individual sewage disposal systems.

With respect to a developer's proposal (for waste collection, treatment, and disposal), the Regional Board's policy is that the development be within a pre-existing governmental entity that has authority to, and has stated its intent to assume responsibility for the planning, construction, operation and maintenance of the sewerage system. Also, any proposal for wastewater discharge to land must be consistent with Basin Plan objectives for the prevention of degradation of groundwaters.

"It is the Bay Area Sewage Services Agency policy that new developments be served by a pre-existing agency with capabilities for treatment and disposal or reclamation of wastewater . . . We strongly recommend that any amendment to the County General Plan regarding new developments be conditioned on the development being served by a pre-existing wastewater management agency."¹

¹Letter of October 17, 1974, to the Alameda County Planning Department, From Daniel F. Murphy, Chief of Planning, Bay Area Sewage Services Agency.

The Alameda County Health Care Services Agency, Environmental Health Services Bureau's policy is to deny requests for installation of sewage treatment package plants unless the following criteria are met:

1. An experimental system will not be approved when the proposed development is totally dependent upon that experimental system for sewage treatment and disposal.
2. The proposed development must be included in or annexed to an existing sewage treatment district.
3. The treatment system must be operated by a full-time wastewater treatment plant operator employed by the (existing sewage treatment) district.

The Uniform Plumbing Code, adopted by the Ordinance Code of the County of Alameda (similarly adopted by City Ordinances) and administered by the Building Inspection Division of the Public Works Agency in coordination with the Health Care Services Agency and Planning Department, generally precludes use of individual sewage disposal systems in areas or under conditions where:

- a public sewer is available within 200 feet of any premises with buildings in which plumbing fixtures are installed;
- the size of the property is less than 40,000 square feet;
- The groundwater level extends to within eight feet or less of the ground surface;
- the upper soil is porous and the underlying stratum rock or impervious soil;
- the slope exceeds 25 percent; or
- there are unusual or unstable geologic conditions.

The County Board of Supervisors has taken a number of actions which reduce the potential for individual sewage disposal system usage throughout the unincorporated area. These actions include:

- Increasing the minimum building site area requirement for residential use in the Agricultural Zoning District from 5 to 100 acres.
- Adoption of a Rural Residential Policy which limits such development to areas planned residential and which also requires sufficient public utilities. The policy requires conformance with the State Water Resources Control Board "Interim Water Quality Management Plan," and Regional Water Quality Control Board Resolution No. 768. The Rural Residential Policy states the "concentrations of septic tank leachfield systems in the Livermore-Amador Valley drainage basin and areas with similar groundwater characteristics or soil problems is precluded."

- Application of the Rural Residential Policy to residentially zoned properties with development potential but inadequate utilities by rezoning them to the "A" District or other large lot district, to preclude further division of lots.
- Enactment of Subdivision Ordinance amendments which extend controls to all divisions of land and which allow private disposal systems only for lots in excess of 40,000 square feet and only when the County health officer has determined that such systems would be sufficient to protect the public health, considering the uses and intensity of development in the area.
- Groundwater survey in rural residential areas with individual sewage disposal systems in order to identify existing or potential problems from land disposal or sewage effluent.
- Revisions of the Alameda County Plumbing Code to prohibit private sewage disposal systems generally, in areas with high ground waters and with percolation rates exceeding 12 inches per hour, and specifically, in the Happy Valley-Sycamore-Alisal Area and Lomitas Avenue area of the Livermore-Amador Valley.
- Adoption of General Plan policies that encourage city-centered new development as opposed to scattered development lacking public services and utilities, and amendments to the General Plan to reduce holding capacity, in the Pleasanton Dublin Hill Area stipulating that areas remaining for residential development are not to be developed until public utilities are provided.

Facilities and Utilization

Sewerage systems within the Livermore-Amador Valley Planning Unit include community systems owned and managed by the Valley Community Services District, the City of Pleasanton and the City of Livermore, and private systems owned and managed by the Castlewood Corporation, General Electric Vallecitos Laboratory and Veterans Administration Hospital. The private systems serve relatively small areas and, unlike the public systems, are not expected to extend their service beyond present limits.

Sewage Treatment Plants

- Livermore Water Reclamation Plant (WRP)

The Livermore WRP is located one mile south of Interstate 580 in the vicinity of the Livermore Municipal Airport. The Plant service area includes the City of Livermore, the Lawrence Livermore Laboratory and a few unincorporated areas. The system receives and processes effluent from approximately 14,400 residential and 500 commercial and industrial units. Estimated service area population is 51,500.

The condition of the present system, including nearly 150 miles of sewers, is generally good; infiltration/inflow is low; flow capacity throughout the system is adequate at present, and would accommodate a flow up to 7.5 million gallons per day (mgd); excess capacity varies throughout the collector system, but in the aggregate could accommodate the 7.5 mgd flow.

At an average daily flow rate of 4.14 mgd, the Plant has reached about 80 percent of its 5 mgd dry weather flow capacity. Remaining capacity is projected to serve industry and low income housing. Treatment efficiency of the plant is very high. As evidenced by effluent data, the plant will meet all EPA secondary treatment standards and all Regional Water Quality Control Board (RWQCB) requirements except for Total Dissolved Solids (TDS) into the Alameda Creek tributary system.

- Valley Community Services District Sewage Treatment Plant

The VCSD Plant is located one mile south of the intersection of Interstate Highways 580 and 680. The service area includes all of Dublin and San Ramon, the Camp Park area, and major portions of the City of Pleasanton. Flows originate from 3,981 residential and 22 commercial and industrial units in the City of Pleasanton and from 6,881 residential and 229 commercial and industrial units in Dublin and San Ramon.

The collection network comprises about 350 miles of pipe. Infiltration/inflow is minimal. Flow capacity throughout the system is adequate: The 42" main to the Plant could accommodate 10.0 mgd. The main was originally designed to serve the area of the San Ramon Creek watershed, but some flows are not diverted north to the Central Contra Costa County Sanitary District. Also, the undeveloped Dougherty Canyon area faces severe difficulty in sewer interceptor construction. System interceptor mains in the Pleasanton area are all sized to accommodate planned growth in the City's current and anticipated jurisdiction, as well as diversion of the Pleasanton plant flows to VCSD.

The 4.0 mgd design capacity VCSD Plant now receives 3.87 mgd. The plant must, therefore, be expanded if it is to accommodate additional growth in the tributary area. The high quality effluent from the Plant is able to meet all federal and state regulations, except the TDS mass emission rate.

- Pleasanton Sewage Treatment Plant

The City's Sunol Sewage Treatment Plant is located approximately 0.3 mile south of Bernal Avenue on Sunol Boulevard. The Plant receives approximately 55 percent of total sewage flow from the City of Pleasanton, including that from 5,800 residential, 12 public, 170 commercial, and 15 industrial units in the Old Town and Pleasanton Valley areas of the City.

The sewer system includes about six miles of pipes. Excessive infiltration/inflow is not a problem. Flow is reaching capacity in some of the older interceptors reaching the plant, although the two main interceptors will be mostly abandoned, as will the plant eventually.

Average daily flow was 1.33 mgd in 1973, Design flow of the Plant is 1.4 mgd. Waste treatment efficiency is low. Waste discharge requirements are not being met, and cease and desist orders have been issued from the Regional Water Quality Control Board regarding odor, effluent, dissolved solids, and surface runoff. The plant is scheduled to be phased out when the VCSD plant is expanded to handle diverted flow.

Individual Sewage Systems

- Veterans Administration Hospital

The small plant serving the Hospital was constructed with a design capacity of 0.5 mgd. At present, the plant receives 0.14 mgd of sanitary wastes from approximately 600 patients and staff.

- Vallecitos Atomic Laboratory

The sewage treatment plant serving the Laboratory has a design capacity of 0.3 mgd and receives mixed domestic and industrial waste. Industrial waste accounts for 97 percent of flow, and consists primarily of spent water from research laboratories and bleed-down water from nuclear reactor cooling systems.

- Castelwood Corporation

The Corporation sewage treatment plant serves the country club area and has a flow of approximately 0.1 mgd.

No effort is being made to consolidate these plants' discharges with larger Valley facilities, probably because they have been meeting discharge requirements. Determination of costs commensurate with benefits would properly be the subject of an engineering investigation.

Septic Tank/Leaching Systems

Although septic tank construction and usage is generally strictly controlled, bacteriological degradation of private wells due to septic tank leachate has occurred in certain areas (eg. Happy Valley, Sunol, Lomitas). Many of these occurrences may be due to improper well construction, rather than septic tank failure, and a recently instituted ordinance mandates the construction of a sanitary seal between the native soil and well casing. This ordinance should eliminate bacteriological contamination of new wells, but the possible contamination of wells with mineral constituents and trace organics still remains. Zone 7 is presently conducting an investigation to identify areas of possible contamination.

ii. Project Proposals and Planning Programs

• City of Pleasanton and Valley Community Services District

Both the City and the District have submitted applications to the State Water Resources Control Board and the Environmental Protection Agency to qualify proposed water quality programs and projects for state and federal grant assistance. The VCSD application is for expansion of plant capacity from existing 5 mgd to 8 mgd. The District's application is coordinated with one of the City's two alternatives, and provides that some 40 percent of expanded VCSD capacity be allocated to serve portions of the City presently served by the Sunol Sewage Treatment Plant.

In 1974, VCSD initially applied for a state grant for expansion of its sewage treatment capacity to 6.5 mgd. The District was sued by the City of Pleasanton, citing a 1972 agreement, resulting from a court decision between Pleasanton, VCSD and ten local developers which required VCSD to expand its capacity to 8.0 mgd and to use part of this capacity to replace Pleasanton's Sunol treatment plant. The court has ordered VCSD to apply for a grant to expand to 8 mgd.

Subsequently, the State Board agreed to fund only a 7.3 mgd capacity, with the option for local funding to 8.0 mgd. Pleasanton thus considered construction of its own new plant without the help of state or federal aid.

In July, 1975, however, representatives of Pleasanton, VCSD, the developers, EPA, the State Board, Alameda County, and the U.S. Army Corps of Engineers met and agreed to initially expand VCSD capacity to 5 mgd and ultimately to 8 mgd. As yet no final plans or authorizations have been given.

The Environmental Protection Agency has expressed concern that expansion of sewage treatment capacity should not directly contribute to the further deterioration of air quality in the Livermore-Amador Valley. The Agency informed VCSD and Pleasanton that impact reports on the proposed expansion of the VCSD treatment facility are inadequate and that EPA will, therefore, prepare its own Environmental Impact Statement.

• City of Livermore

In the early 1970s, additions and modifications to the Livermore Water Reclamation Plant were proposed to increase treatment capacity from existing 5 mgd to 10 mgd. In 1972, anticipating that local funding would not be available for the proposed expansion, the City Council determined that the plant design project should be limited to installation of necessary structural facilities and appurtenances so as to permit a high lime incineration type of sludge disposal and treatment process. Addition of lime treatment with incineration would have increased overall capacity of the plant by about one mgd.

In May, 1973, the State Water Resources Control Board staff determined that the proposed high lime facilities would have provided treatment exceeding State requirements. The staff recommended and the State Board upheld certification of only those elements required for compliance with State waste discharge requirements. Current improvements to the Livermore Plant, which utilizes federal and state grant assistance, will bring the facility into compliance with State wastewater discharge requirements without increasing treatment capacity above existing 5 mgd.

Recently, the Livermore City Council instructed the City Director of Public Works to prepare an application for State funding and certification of one mgd expansion to the Livermore Plant. The proposed expansion will probably employ conventional treatment technologies. A condition of treatment plant expansion is an allocation system to reserve necessary capacity for commercial and industrial uses.

- Livermore-Amador Valley Water Management Agency

To implement a wastewater management system for the Livermore-Amador Valley, the City of Pleasanton, City of Livermore and Valley Community Services District entered into a joint exercise of powers agreement to create the Livermore-Amador Valley Water Management Agency (LAVWMA). The Agency was created to plan, design and construct a joint wastewater discharge facility for the three member agencies. Individual members will retain the responsibility of collecting and treating sewerage within their boundaries for transport to the LAVWMA facility.

The Agency initially considered 15 wastewater treatment and disposal alternatives. After screening by federal and state agencies to evaluate compatibility of each alternative with past planning efforts and with the Bay Area Water Quality Control Plan and to determine the cost-effective ability of each alternative to meet water quality goals and objectives and waste discharge requirements, the lists of alternatives was reduced to five considered viable. A more detailed technical analysis of the viable alternatives was then performed in order to initiate screening. The viable alternatives fall into four general categories of wastewater treatment and disposal: 1) treatment and receiving water discharge, 2) land application techniques, 3) treatment and reuse, and 4) a combination of alternatives. All alternatives propose continued treatment at the existing City of Livermore plant, consolidation of Pleasanton and VCSD plants with service continuing at the VCSD plant, and alternative methods and locations of effluent disposal.

The viable alternatives include:

- Alternative 1A - Treatment and Export to South San Francisco Bay

This alternative would involve the collection of treated effluent from VCSD and Livermore treatment plants, with subsequent transport by both gravity-flow pipeline and force main through Niles Cone for ultimate discharge into South San Francisco Bay.

- Alternative IB - Treatment and Export to East Bay Dischargers Interceptor

The alternative would continue treatment at existing Livermore and VCSD plants, with ultimate discharge into the proposed East Bay Dischargers interceptor.

- Alternative 1Ba - Treatment and Export with Discharge to San Lorenzo Creek

- The alternative proposes discharge of effluent into San Lorenzo Creek, rather than into the East Bay Dischargers interceptor.

- Alternative 1E - Treatment (including Demineralization) and Local Discharge

The alternative proposes to treat combined effluent from Livermore and VCSD plants with denitrification and reverse osmosis treatment processes for ultimate effluent disposal in the Alameda Creek watershed and salt brine discharge into the East Bay Dischargers interceptor.

- Alternative 3A - Impoundment and Reuse for Irrigation with Wet Weather Release of Excess Water (Salt Routing)

This alternative combines impoundment and reuse for irrigation with wet weather release of excess water, or salt routing.

In November, 1975, LAVWMA Board of Directors approved a resolution confirming its intent to "proceed toward implementation of a pipeline connection to the East Bay Dischargers Authority outfall sewer" (Alternative 1B) and to "negotiate in good faith" with the Authority to hook up the LAVWMA proposed pipeline to the East Bay Dischargers outfall.

Under terms of the joint agency agreement, the LAVWMA project is constrained both as to total capacity and total costs. The Agency will not have to go to the voters for local share funding approval if the design calls for less than 13 mgd capacity and if total costs borne by the three parties do not exceed \$1.5 million. The federal share would be 75 percent, and state share 12.5 percent and all eligible costs.

According to EPA, the 13 mgd limit translates approximately to a population level of 136,800. Even the minimum growth projection of E-0 would require an estimated 14 mgd. Further, the local share of the selected project, least expensive of the alternatives, is estimated at \$2 million. System design capacity by the E-0 population level would be approximately 14 mgd. Sewage treatment needs projected by local jurisdictions for 10 and 20 years hence is respectively about 19 and 25 mgd.

- Related Studies and Programs

- Corps of Engineers Urban Study

The U.S. Army Corps of Engineers was authorized by Congress to conduct the three-year comprehensive study of water resources in the Alameda Creek Watershed. Included in the study will be assessment of local water-related problems, including flood control, water supply, water quality, recreation, fish and wildlife, and wastewater management of nonpoint sources.

- ABAG Section 208 Study

The Association of Bay Area Governments has been designated by EPA as the administrator of grant funds for a Bay Area nonpoint source wastewater management study. Funds are provided under Section 208 of the Water Pollution Control Act. ABAG and Alameda County are cooperating in this effort for the Alameda County portion of the study.

- LAFC Spheres of Influence

The Alameda County Local Agency Formation Commission has adopted spheres of influence for the City of Livermore and City of Pleasanton. The first excludes the Las Positas area from the City's sphere of influence, leaving serious questions as to sewage treatment responsibilities for development in this area, as indicated in the present Alameda County General Plan.

The sphere of influence for Pleasanton proposes eventual annexation of Dublin to Pleasanton, with the effect of severing the VCSD sewage service area and potentially weakening VCSD's ability to economically provide sewage service to its remaining San Ramon territory in Contra Costa County.

- c. Solid Waste Collection and Disposal

- i. Organization

Collection and disposal of refuse in the Planning Unit is provided by two companies--the Livermore-Dublin Disposal Service, a subsidiary of Oakland Scavenger Company; and the Pleasanton Garbage Service. Conditions of solid waste collection are prescribed by ordinances of the Cities of Livermore and Pleasanton, the Valley Community Services District, and Alameda County (Zoning and Health Ordinances, and by contracts between the

local jurisdictions and the two collection companies. Conditions of disposal are prescribed by ordinances and contracts.

ii. Collection Service

Service Areas

Refuse in the City of Livermore and in the Valley Community Services District is collected by the Livermore-Dublin Disposal Service. The Service also provides, by contract, collection services to individual properties in the unincorporated areas north of I-580 freeway and in the eastern half of the Livermore-Amador Valley.

Pleasanton Garbage Service is under contract to provide collection services in the City of Pleasanton and also provides service to unincorporated areas generally south of I-580 freeway and in the western half of the Planning Unit.

iii. Disposal Facilities

Existing and Proposed Facilities

The Pleasanton Garbage Service is now hauling household and commercial refuse to a transfer station and then to the Eastern Alameda County Disposal Site on Vasco Road. Annual tonnage collected is about 20,000.

Refuse collected by the Livermore-Dublin Disposal Service is hauled to the Eastern Alameda County Disposal Site on Vasco Road, four miles northeast of Livermore. As of 1973, the site received approximately 50,000 tons of refuse per year. While the site has enough capacity to last until 2000 AD, at this present rate of fill, the addition of wastes from Pleasanton collection service area will reduce its life proportionately.

d. Flood Control

i. Authority and Organization

Flood control in Alameda County has been the responsibility of the Alameda County Flood Control and Water Conservation District. The District is empowered to control and conserve flood and storm waters and to protect water sources, watersheds, harbors, highways, life and property from damage or destruction from such waters.

There are 10 zones in the District. Zone 7 encompasses all of the Livermore-Amador Valley area. Special Drainage Area 7-1 was established in 1966 to handle recurrent flooding problems in certain areas of the Livermore-Amador Valley. Alameda County Flood Control and Water Conservation District Ordinance No. 53 established institutional arrangements for implementation of the District flood control program.

ii. Standards and Criteria

Design criteria of the County Flood Control District allow for a reasonable level of flood protection to lands within the District so as to provide for the protection and benefit of the general public at a minimum cost for construction and maintenance of District facilities. In application to private developments, it is District philosophy that each development take care of its augmented flow, accept runoff at ultimate development, and discharge through adequate facilities.

Under the National Flood Insurance Act of 1968, the federal government has set up the Flood Insurance Program to transfer to property owners the cost of flood damages. Property owners in participating communities would be able to purchase flood insurance at federally subsidized rates. To be eligible to participate the community is required to adopt certain land use control measures for flood hazard areas.

Development upon flood plains can cause increased flood damages by reducing the water-carrying capacity of floodways. The Flood Insurance Program has established flood plain development standards to assist communities in controlling flood plain development. These standards limit increased flood heights that might result from development on a flood plain.

The "Proposed Flood Plain Zoning Ordinance" prepared by the Alameda County Planning Department (July, 1975) recommends amendments to the Zoning Ordinance to provide conformance with HUD Guidelines. Generally, the document recommends that the County implement its flood plain regulations through the use of two new combining districts. These districts include the FW (Floodway) and FF (Flood Fringe) Combining Districts. The basic intent of the FW District is to prohibit structures or other obstructions to flood flows or uses which would be subject to serious damage by flooding. The FW District would essentially permit any use allowed by present zoning, with the provision that any structure be elevated above the 100-year flood.

iii. Projects and Facilities

The Flood Control District Zone 7 has determined channel capacity needed to contain design flood flows under "ultimate" Livermore-Amador Valley development. Streamed channelization has been undertaken along Alamo Canal, and parts of Arroyo de la Laguna and Arroyo Mocho. Arroyo Mocho has been improved to its ultimate design capacity, from its function with Arroyo de la Laguna to Santa Rita Road. Current project scheduling plans on development of the Arroyo to one-half capacity, from Santa Rita Road to El Charro Road. Alamo Canal is fully channelized, as is Arroyo de la Laguna from Arroyo Mocho south to Arroyo del Valle. Generally south of Arroyo del Valle, the Arroyo de la Laguna channel is unimproved.

Because of financial arrangements, more flood control improvements by Zone 7 are tied to more development in the Livermore-Amador Valley. Recent decreases in the Valley's development rate

have also decreased the rate at which planned flood control improvements can be constructed. Areas in the Valley where flood control improvements have not been completed and which, according to the District, are subject to flooding from the 100-year storm include:

1. a section of the Arroyo de la Laguna which is south of Bernal Avenue and extends to Sunol; and
2. a section of the Arroyo Mocho east of the Southern Pacific Railroad tracks, including Tassajara and Chabot Creeks.

e. Police Protection

i. Organization

Police protection services in the Planning Unit are provided by the Alameda County Sheriff's Department, by the police forces of the Cities of Livermore and Pleasanton, and by the California Highway Patrol.

The authority of the Sheriff extends over all cities as well as over the unincorporated communities and areas.

ii. Facilities and Operations

The Department, with headquarters in Oakland and substations in San Leandro and at Santa Rita, furnishes regular patrol services to all unincorporated areas on a beat system seven days a week, twenty-four hours a day.

f. Fire Protection

i. Organization

Agencies providing the major portion of fire protection services in the Livermore-Amador Valley Planning Unit include the State of California Division of Forestry, Alameda County Fire Patrol and the fire departments of the City of Livermore, City of Pleasanton and Valley Community Service District. Other departments with more limited service areas include the U.S. Army fire department at Camp Parks, Veterans Administration Hospital fire department, the fire patrols of the Lawrence Livermore, Sandia Corporation and General Electric Vallecitos Laboratories, and the Santa Rita Rehabilitation Center Fire Department.

The Livermore, Pleasanton and VCSD forces provide fire protection services within their respective jurisdictions. The Fire Patrol of Alameda County provides structural and supplemental watershed fire protection to unincorporated areas in the Murray Township. The Division of Forestry provides structural and watershed protection to unincorporated parts of the County by contract, and the Sunol station serves unincorporated areas in the Pleasanton, Eden and Washington Townships during the summer and winter, and to Murray Township in the summer months.

A mutual aid agreement among the several Valley fire protection agencies is one of the most comprehensive in California.

ii. Standards and Criteria

The Uniform Fire Code and Uniform Building Code form the basis for Alameda County's structural fire protection standards. The Uniform Building Code governs provisions relating to minimum standards for the regulation and control of the design, quality of materials, use, occupancy and location of buildings. The Uniform Fire Code governs the maintenance of buildings and premises.

Water supply standards for fire protection are established by the Insurance Services Office in their Grading Schedule for Municipal Fire Protection.

Road construction and maintenance standards, as they relate to adequate access for fire and emergency vehicles and for routes of escape, have been developed as to ingress-egress routes, right-of-way width, culs-de-sac, street grades, minimum center-line radius of curvature, and vegetation clearance.

County policy on the design and improvements required in Planned Development Districts require safety features which would provide for fire protection to residential dwellings. The County Subdivision Ordinance requires that within a fire protection district subdividers or developers install water supply appurtenances in conformance with district standards, and, if not in a district, in conformance with standards of Insurance Services Office.

A measure of the level of fire protection within fire protection districts is the Fire Insurance class rating, assigned by the Insurance Services Office for insurance cost purposes. Ratings are based on such factors as district manpower and their training, local water system and supply, presence of hydrants, etc. Insurance rates in each fire protection district fall into two zones. Zone 1 includes the urban, built up areas of the protection district where water is available. Zone 2 includes the surrounding rural areas of the district where water service is not available. Typically, class rates are lower, and insurance costs lower, in areas with water service. The unincorporated areas, outside existing fire protection districts, have the highest rating. Ratings in the following table generally reflect the fact that the bulk of homes in the Planning Unit are in new subdivisions which contain adequate water supply and fire hydrants to provide good protection. The County Service Areas, served by the Pleasanton Fire Department (and included in Zone 2 of the City Protection District) do not contain sufficient numbers of hydrants and their distance from the City's fire stations further lowers their level of protection. Also, there is no reasonable policy regarding installation of hydrants in these areas; an equitability problem arises over who should pay the cost.

	Fire Insurance	Class Rating
Valley Community Services District	Zone 1:	3
Fire Protection District	Zone 2:	9
City of Pleasanton Fire Protection District (includes unincorporated)	Zone 1:	4
	Zone 2:	9
City of Livermore Fire Protection District	Zone 1:	4
	Zone 2:	9
Unincorporated Area	Zone 1:	10

The structural fire hazard problem is getting worse, according to the County Fire Warden, as more and more expensive homes are built further away from public water supplies and fire stations. Tanker trucks which are large enough to handle a structural fire are also slow to arrive at the scene of a conflagration. As a result, severe structural damage occurs. The fire trucks arrive in time to hopefully keep the fire from spreading to other homes or into the wildland areas.

Standards for Wildland Fire Protection

Standards for wildland fire prevention are prescribed in the Public Resources Code and are enforced by the State Division of Forestry. The Sunol Ranger District, the East Bay Regional Park District, and the County Fire Patrol in Livermore are involved in wildland fire prevention and protection in Alameda County.

g. Health Care

Provision of basic health care services is prescribed by the Health and Safety Code and California Administrative Code and implemented by the Health Care Services Agency of Alameda County.

There are three skilled nursing facilities with a combined bed capacity of 140, and no intermediate care facilities in the Livermore-Amador Valley Area.

i. Acute General Hospitals

The two acute general hospitals in the Livermore-Amador Valley are the Veterans Administration Hospital and Valley Memorial Hospital. The Veterans Administration Hospital, a 198 bed facility is a regional facility for the exclusive use of United States veterans. The single local facility is Valley Memorial Hospital, located in Livermore. The hospital has a certified bed capacity of 112, including 72 medical and surgical, 15 pediatric, and 23 maternity. Valley Memorial Hospital also provides outpatient care services, including 24 hour emergency, physical therapy and X-ray services.

ii. Outpatient Care Facilities

Outpatient care facilities include physicians offices, group practices, hospital outpatient departments, industrial medicine clinics, "street clinics," and freestanding health centers. According to a 1973 survey by the Community Assistance Team of Southern Alameda County, the Livermore-Amador Valley, as compared to the County, is under-represented by medical and dental practitioners. This is particularly the case in the Pleasanton area, where there were only 0.44 physicians and 0.49 dentists per 1000 population.

The Alameda County Health Care Services Agency provides services through three facilities in the Livermore-Amador Valley. The Santa Rita subcenter, recently located to Hopyard Road in Pleasanton, provides immunization, maternal and child health, and tuberculosis control services. The Pleasanton Health Care Center, located on Railroad Avenue in Pleasanton, is partially funded by the County through grants, and operates with the assistance of county public nurses from the Hopyard Road subcenter. The Pleasanton Center provides family planning, venereal disease control, and pre-marital blood test services.

The Valley Mental Health Clinic, in Livermore, provides mental health clinics and services, such as outpatient and crises intervention counseling, child and youth service, and mental rehabilitation counseling. Special consultation in the Valley is provided by Project CURA, a drug detoxification program located at Camp Parks.

h. Education

i. Public Schools

Rapid development and rapid population growth in the Livermore-Amador Valley, combined with failures of several school construction bond issues, have required districts to increasingly rely on relocatable, or portable classroom units. This is particularly the case in the Livermore Valley Unified School District, where in 1975 nearly twenty percent of classroom capacity was provided by relocatable units. In the Murray School District, approximately eleven percent of capacity, and in the Pleasanton Joint School District, approximately seven percent of enrollment capacity was provided by relocatable classrooms. The more recent slowed rate of growth, particularly in the Pleasanton area, brought about by a lack of sewer capacity, has resulted in underutilization of some school facilities. Uneven distribution by grade level has also necessitated considerable transfer of students from school to school in the lower grades.

11. South County Junior College District

The South County Junior College District serves residents of Alameda County's Eden and Livermore-Amador Valley Planning Units and Contra Costa County residents in the San Ramon area. The Livermore Junior College Campus recently opened on a 148 acre site on Collier Canyon Road, approximately one-half mile north of Interstate Highway 580. The campus had a 1974-75 enrollment of 425 day students and 500 evening students. A recent construction project, provides for an increase in enrollment capacity to 1,000 day and 1,000 evening students.

It is estimated that 99 percent of enrolled students are from the Livermore-Amador Valley. If funding was available for further construction, the District estimates that enrollment would increase to 3,000 day students and 3,000 evening students.

i. Library

1. Organization

Library service in the Planning Area is provided by the Alameda County Library System and by the City of Livermore.

The Alameda County Library System provides library service to the cities of Albany, Fremont, Newark, Pleasanton, and Union City; to the communities of Castro Valley, Dublin and San Lorenzo, and to other unincorporated areas of the County. Cities such as Livermore, which are not in the County Library System, provide local library services through independent city library systems.

ii. Facilities

The Alameda County Library System

The Alameda County Library System furnishes library services at two facilities in the Livermore-Amador Valley:

Community	Location	Size in Sq. Ft.	Services
Dublin	6930 Village Parkway	6,200	6 days a week, 60 hours
Pleasanton	4333 Black Avenue	6,400	6 days a wekk, 50 hours

Through its Extension Services Division, the County Library also furnishes bookmobile service to outlying areas, as well as service to the county prisons, Juvenile Hall, Fairmont Hospital and certain convalescent hospitals. Bookmobile services is furnished the Livermore-Amador Valley on a bi-weekly basis, with stops at Mountain House, Santa Rita, Komandorsky Village, and two stops in Pleasanton.

City of Livermore

The City of Livermore maintains an independent city library system which provides service to residents in the Livermore area. The 15,400 square foot library is located at 1005 South Livermore Avenue and operates 6 days, 60 hours a week. The city system does not have any bookmobile services.

j. Park and Recreation

i. Organization

The provision of park and recreation facilities and programs is the function of several governmental levels, as well as of the private sector. Recreation facilities within the Planning Unit are provided by the East Bay Regional Park District, the Livermore Area Recreation and Park District, the Cities of Livermore and Pleasanton, the Valley Community Services District, the school districts, and by private organizations and homeowner associations.

ii. Existing Facilities

- The East Bay Regional Park District currently owns or administers approximately 41,545 acres of parkland in the Alameda County and Contra Costa County area. The District owns or administers a total of 12,696 acres of parkland in the Livermore-Amador Valley Planning Unit. Holdings are distributed among seven facilities:
- Sunol Regional Wilderness, a 3,479 acre parkland near Sunol. The District owns 2,768 acres and leases 445 acres from the San Francisco Water Department.
- Camp Ohlone, southeast of Sunol Wilderness. All 216 acres are owned by the District.
- Del Valle State Recreation Area, which includes 3,445 acres owned by the State of California and operated by the Regional Park District. The park is located south of Livermore and includes Del Valle Reservoir.
- Shadow Cliffs Regional Recreation Area, a 249 acre facility located east of the City of Pleasanton.
- Camp Parks, in the Regional Land Bank Category. Located northeast of Dublin in Alameda County, the 446 acre site is undeveloped and not open to public use.
- Ridgeland, a 4,236 acre facility located between Sunol and Del Valle parklands. The recently acquired site is currently in the Regional Land Bank Category but is proposed for Regional Preserve classification in the District Master Plan.
- Mission Peak, a 625 acre site, is also a recent District acquisition and is proposed for Regional Preserve classification.

j. Visual and Scenic Qualities

The Livermore-Amador Valley is a moderately sized inland valley offering a variety of visual experience. The valley floor is about 14 miles long by 6 miles wide and is surrounded by hills which range from gently rolling in the north to a rugged mountainous type in the southeast. The continuity of the rolling hills is occasionally broken by a concave pocket where a small landslide has occurred. These surrounding hills serve as watersheds for scores of tributaries coming out of every canyon and which eventually join into Alameda Creek flowing out Niles Canyon to San Francisco Bay. Though many of the tributaries are dry in the summer months, there is always a sizeable flow in Alameda Creek.

Vegetation ranges from rolling grasslands with very sparsely scattered stands of trees to the steep canyons with dense chaparral type shrubs. The grasslands are a bright green in the spring and early summer changing to a dry brown in the dormant seasons. The trees usually maintain at least some of their leaves all year. The chaparral type shrubs are darker in color and change little from season to season. Large portions of the valley floor are cultivated in rectangular plots with straight rows giving an order to these areas not found in the natural environment. Here and there in the rolling foothills to the north, the vegetation of a rectangular plot will be higher, or greener, or browner, or distinctive in some way from the surrounding area that indicates it is being cultivated. Cattle and occasionally sheep are seen on some of the grasslands. Many birds and insects, some poultry and rabbits are the only other animals readily apparent, although many wild special thrive in the area.

Nodes of manmade activity are evident in the Livermore-Amador Valley at the East and West ends. A major freeway (I-580) enters the valley, joins the two nodes together and then continues on out the other side of the valley. Another major pathway runs along the base of the steep ridge rising to the West, entering and existing through canyons. Smaller paths depart from the major pathways and penetrate the areas of manmade activities or meander into the canyons of the surrounding hills. In the grasslands and cultivated areas farmhouses are scattered about, usually under a stand of trees. Windmills, barns, corrals and fences are also widely and randomly spaced on the landscape; barbed wire fences are usually miles long and straight, following the section lines of the original survey, rising and falling with the terrain.

The developed areas in the east and west ends of the valley bear witness to over one hundred years of architectural history. Both Pleasanton and Livermore have numbers of old, well-maintained, victorian style homes near their centers. Like growth rings on an old tree, newer and newer homes are found with distance from the centers of the original towns. The newer growth is lower to the ground and of an homogeneous overall appearance with fewer and smaller trees. Only several structures remain in the Dublin area which are typical of the Livermore-Amador Valley a century ago. Today Dublin is characterized by one story, pitched roof, suburban dwellings arranged in a network of curving streets with some taller new commercial areas in the south adjacent to the major pathway

(I-580). The remaining historical buildings in Dublin are off to one side, hidden by trees, and not readily apparent.

k. Inventory of Archaeologic and Historic Sites

Archaeologic Sites

A review of records for archaeologic sites within the Livermore-Amador Valley Water Management Agency study area was conducted by archaeologists from the Treganza Museum of San Francisco State University. The search, of records at the University of California in Berkeley and at San Francisco State University, revealed the existence of 28 sites in the watershed of Alameda Creek; 17 within Alameda County; 4 within Contra Costa County; and 7 within Santa Clara County. An additional 13 sites were gleaned from records at San Francisco State University. According to the report interior Alameda County, and in particular the watershed of Alameda Creek, is an area significant in its profound lack of archaeologic investigation. Thus, while it was inhabited at least by the time of Christ, and most certainly during the several centuries immediately preceding historic contact, the exact nature and intensity of occupation, the types and numbers of distinct cultures involved, and their relationship to the environment and to other oboriginal cultures to the east and west, are questions which remain to be answered.

A complete text of the archaeologic report prepared for LAVWMA, including a more detailed description of recorded sites and results of surface reconnaissance, is included in a Confidential Report on file at the EPA regional office in San Francisco, at the Treganza Museum in San Francisco, and at the Alameda County Planning Department office in Hayward.

l. Energy Services

i. Gas and Electricity Supply Facilities

Electricity and natural gas are supplied to the Livermore-Amador Valley Planning Unit by the Pacific Gas and Electric Company.

Electric transmission lines of 60, 115, and 230 KV serve a total of ten substations in the Planning Unit area. Presently the capacity of the 60 KV transmission lines has been reached and the area is in the process of being converted to a 230 KV transmission-21 KV distribution system. Plans also call for installation of a new 230-21 KV Vineyard substation, planned for Pleasanton in 1979.

Because the entire PG&E electrical system is an interconnected grid, the source of electricity consumed in any location can be from fossil fuel, hydro, geothermal, or nuclear power plants located elsewhere within the company's system. However, most of the electricity consumer in the Livermore-Amador Valley area is produced from fossil fuel power plants located in Pittsburg and Antioch, California.

Natural gas is supplied to the area by four major gas transmission lines: two 22 inch lines, a 24 inch line, and a 36 inch line. The PG&E gas distribution is also a grid; gas consumed may originate in Canada, Texas or California.

ii. Energy Consumption

The principal areas of energy consumption by Valley residents are home use of electricity and natural gas, and automobile use of gasoline.

Consumption of electricity and of natural gas is considerably higher for Livermore-Amador Valley households than for households in the Hayward area. Estimated average household consumption of electricity is approximately 40 percent higher, and consumption of natural gas, in therms, is approximately 70 percent higher than consumption rates for Hayward households. The variance can partially be explained by:

- differences in climate: the Valley climate is both colder in the winter and hotter in the summer;
- difference in housing designs and type: homes in the Valley, especially in recently developed areas of Pleasanton and Dublin, are predominately single family residences and generally larger than those in the remainder of the East Bay.

Table III-10
COMPARATIVE ENERGY USE
Hayward and Livermore-Amador Valley, 1974

	Average Household Size	Annual Consumption of Electricity	Annual Consumption of Natural Gas
Hayward	3.3	5170 kwh	1059 Therms
Livermore-Amador Valley	3.6	7200 kwh	1800 Therms
percent difference		39%	70%

The Environmental Protection Agency, in its Livermore-Amador Valley Wastewater Management Program EIS, estimates, based on a projected household size of 3.3, that Valley households use 1430 kwh of electricity (28%) and 591 Therms of natural gas (56%) more than households in Hayward. Growth in the Valley could thus result in up to 28 percent more electricity consumption and 56 percent more natural gas consumption than the same growth in the East Bay, although these differences could be reduced by energy-efficient dwellings, less reliance on electrical appliances, and other changes.

Consumption of gasoline is currently high, due to such factors as the high number of vehicles per household, high number of trips per dwelling unit brought about by a vehicle--oriented lifestyle, the relative remoteness of Valley communities from Bay Area urban centers, and the high proportion of external trips.

D. SOCIO-ECONOMIC

1. Size and Characteristics of the Population

The population of the Valley in 1976 is estimated at 102,000. The two cities, Livermore and Pleasanton, have 49,000 and 32,000 respectively. The remainder is made up of the Upper Amador Valley, which has 14,000, and the other unincorporated areas with 7,000.

The sex distribution in the 1970 Census showed 39,270 males and 38,385 females. This was somewhat different from the County as a whole in which females out-numbered males and is characteristic of areas of new population.

The age distribution in the 1970 Census showed 42 percent under age 18, 54 percent 18-64, and 4 percent 65 or over.

A significant difference from the County as a whole is the low percentage of older adults, 4 percent, while the County has 9 percent 65 or older. For persons under 18 the difference is also marked, 42 percent in the Valley compared to 31 percent in the County, a reflection of the younger families in the Valley.

In racial composition, the Valley is predominately white, with only 3.5 percent nonwhites, which is characteristic of several South County areas.

In housing, single dwellings are the principal type, forming 89 percent of the total.

Table III-11

DISTRIBUTION OF POPULATION IN LIVERMORE-AMADOR
VALLEY PLANNING UNIT, 1976

	<u>NUMBER</u> 102,000	<u>PERCENT</u> 100.0
Total		
Livermore	48,800	47.8
Pleasanton	32,400	31.8
Dublin (u)	14,200	13.9
Remainder (u)	6,600	6.5

(u) = Unincorporated.

Table III-12

POPULATION IN THE LIVERMORE-AMADOR VALLEY PLANNING
UNIT, BY AGE AND SEX, 1970

Age	<u>Total</u>	<u>Male</u>	<u>Female</u>
Total	77,655	39,270	38,385
Under 18	32,637	16,645	15,992
18 - 64	41,782	21,217	20,565
65 & over	3,236	1,408	1,828

Table III-13

POPULATION IN THE LIVERMORE-AMADOR VALLEY PLANNING
UNIT, BY RACE, 1970

	<u>NUMBER</u>	<u>PERCENT</u>
Total	77,655	100.0
White	74,995	96.5
Black	898	1.2
Other	1,762	2.3

Table III-14

HOUSING UNITS IN THE LIVERMORE-AMADOR VALLEY
PLANNING UNIT, BY TYPE OF STRUCTURE, 1970

Type	<u>NUMBER</u>	<u>PERCENT</u>
	22,648	100.0
1-unit	20,066	88.60
2-units	592	2.61
3 & 4 units	589	2.60
5 & more	1,401	6.19

The average (mean) size household in 1970 was 3.58 persons. This was considerably higher than the 2.84 persons in the County, reflecting the high proportion of single dwellings.

Trends in Population

The total population of the Valley in 1940 was 8,423. In the 1950's the population doubled to 30,000 and in the 1960's, the period of greatest increase, 48,000 were added to bring the total to 78,000 in 1970. Since 1970 the increase has been modest. The growth rate has dropped to 5 percent per year compared to the 10 percent rate of the 1960's.

As the population has grown it shows an increasing proportion of young persons (under 18) rising from 31 to 42 percent from 1950 to 1970. The older age groups have decreased correspondingly.

Table III-15

POPULATION IN THE LIVERMORE-AMADOR VALLEY
PLANNING UNIT 1940-1976

YEAR	POPULATION	CHANGE		AVERAGE ANNUAL PERCENT CHANGE
		NUMBER	PERCENT	
1940	8,423			
1950	14,396	5,973	70.9	5.5
1960	29,640	15,244	105.9	7.5
1970	77,655	48,015	162.0	10.1
1976	102,000	24,300	31.3	4.7

During the period of growth the racial composition showed little change. Nonwhites were 4.5 percent of the total in 1960 and 3.5 percent in 1970. Of the nonwhites about half are black.

The size of household increased during the 1960's reflecting the increase of children and youth. By 1970 the average mean size of household was 3.58 persons compared to 2.84 countywide. Since 1970 the trend has reversed and the household size averaged 3.28 in 1976.

The single dwelling predominated throughout the growth period from 1960 to 1975. In 1960 singles formed 88 percent of the total. By 1975 singles were 86 percent. The modest rise in multiples was principally in the larger developments of 5 or more units.

Table III-16

HOUSING UNITS BY TYPE OF STRUCTURE LIVERMORE-AMADOR
VALLEY PLANNING UNIT 1960-1975

	TYPE OF UNIT				
	TOTAL	1	2	3&4	5+
1960	8,776	7,734	216	263	563
1970	22,648	20,066	592	589	1,401
1975	30,772	26,373	646	731	3,022

CHANGE IN HOUSING UNITS 1960-75

	TOTAL	1	2	3&4	5+
1960-70	13,872	12,334	376	326	838
1970-75	8,124	6,307	54	142	1,621
1960-75	21,996	18,641	430	468	2,459

ANNUAL PERCENTAGE CHANGE BY TYPE OF UNIT

	TOTAL	1	2	3&4	5+
1960-70	9.9	10.0	10.6	8.4	9.6
1970-75	6.3	5.6	1.8	4.4	16.6
1960-75	8.7	8.5	7.6	7.1	11.9

Table III-17

PERCENT DISTRIBUTION BY TYPE OF UNIT

	TOTAL	1	2	3&4	5+
1960	100.0	88.1	2.47	3.01	6.42
1970	100.0	88.6	2.61	2.60	6.19
1975	100.0	85.8	2.10	2.3	9.8

The distribution of population within the Valley since 1960 has undergone limited change.

Livermore has retained its place as the largest concentration in the Valley with 48 percent of the total in 1976. Pleasanton increased its proportion of Valley population from 14 percent in 1960 to 24 percent in 1970 and 32 percent in 1976. Dublin acquired almost its total present population from 1960-1970. In 1970 it represented 19 percent of the Valley population. Since 1970 Dublin has had negligible increase, leveling off at 14,200 in 1976, representing 14 percent of the Valley population.

Table III-18

POPULATION OF LIVERMORE-AMADOR VALLEY PLANNING
UNIT, BY CITY AND AREA 1970-1976

	1960	1970	CHANGE 1960-70		1976*	CHANGE 1970-76	
			NUMBER	PERCENT		NUMBER*	PERCENT
Total	29,640	77,655	48,015	162.0	102,000	24,300	31.3
Livermore	16,058	37,703	21,645	134.8	48,800	11,100	29.4
Pleasanton	4,203	18,325	14,125	336.1	32,400	14,100	77.0
Dublin (u)	1,381	15,041	13,660	989.1	14,200	-800	-5.3
Remainder (u)	7,998	6,583	-1,415	-17.7	6,600	**	

(u) = unincorporated

*Figures rounded to nearest hundred.

**Less than 100.

Sources of Population Change

The change in population in the Valley, as in other areas, is the result of natural increase and migration. Natural increase occurs from the excess of births over deaths. An increase due to migration will result when in-migration exceeds out-migration.

Migration has accounted for most of the present population. In the 1950's net in-migration was 10,500 and in the 1960's there was net in-migration of 40,800.

Natural increase contributed nearly 4,700 in the 1950's and 7,200 in the 1960's.

Table III-19

LIVE BIRTHS AND BIRTH RATES IN LIVERMORE-AMADOR
VALLEY PLANNING UNIT 1950-1974

YEAR	LIVE BIRTHS	TOTAL POPULATION	BIRTHS PER 1,000 POPULATION
1950	282	14,396	19.6
1960	774	29,640	26.1
1970	1,323	77,655	17.0
1974	1,359	104,100	13.1

Table III-20

NATURAL INCREASE IN LIVERMORE-AMADOR VALLEY
PLANNING UNIT 1950-1974

YEAR	BIRTHS	DEATHS	NATURAL INCREASE
1950	282	134	148
1960	774	217	557
1970	1,323	355	968
1974	1,359	360	999

The birth rate increased from 19.6 births per 1,000 population in 1950 to 26.1 births in 1960. By 1970, however, the rate had dropped to 17.

Since 1970 the birth rate has continued to decline, reaching 13.1 in 1974 compared to the 17.0 rate of 1970. Natural increase has accounted for 3,840 in the four years 1970-74. Migration has totaled 23,000. Most of the migration probably occurred in the first part of the 4-year period.

2. Population Projections

The County released population projections in 1972, an "A" series based on 1960-70 trends and a 1970 birth rate, both extended or "extrapolated" into the future, and a "B" series which modified the trends to accord with environmental constraints and growth controls which were becoming important considerations. The "A" series projected a population in the Livermore-Amador Valley Planning Unit of 192,000 in 1990, while the "B" series projected a population of 157,000 in 1990. The "B" series was adopted for planning purposes. It has been used extensively and has influenced other agencies. The 1975 "B" projection was 103,000. As noted earlier in this report the current estimate of population for 1975 is 104,000. Even though this series appears close to the reality it has been recognized that it should be revised because of changes in the State, region, and the County which will be registered in the Valley in coming years. Indeed, the first part of the 5-year period from 1970 to 1975 was one of high migration, while the second part has shown a sharp decline. The same applies to birth rates--after some uncertainty as to whether the dropping birth rates in nation, state, and local areas of the late 1960's would be reversed in the 1970's, it is now apparent that the decline in births has continued. For the County and the Valley birth data recently became available for 1974. For the Nation they are available for 1975 and indicate a further drop.

Meanwhile, other projections of importance have been prepared by other agencies concerned with planning in the Livermore-Amador Valley. The Livermore-Amador Valley Water Management Agency, in preparing flow projections for its wastewater facilities program, used population based on E-0 projections adopted by the State Water Resources Control Board, modified somewhat by special censuses in the area. The so-called "E-0" projections refer to a combination of a low rate of births or, more exactly, fertility, and a zero rate of migration. The latter can be theoretically no in-migration or realistically in-migration offset by out-migration.

In a sense these are not projections but an arbitrary limit set to apply to an area for controlling the amount of non-local public funds to be made available for wastewater facilities and thereby limiting the growth of population. Nevertheless they are a major influence at this time which we must take into account in projecting population.

The LAVWMA services area includes part of Contra Costa County. Their total projection for 1996 is 146,185. When the Contra Costa County portion is estimated and deleted the projection for Alameda County's Livermore-Amador Valley Planning Unit is 131,000. This would be made up of 63,575 for Livermore, 45,229 for Pleasanton, and approximately 22,000 for Dublin and the remainder of Alameda County.

A second set of projections which should be considered is made up of the recent population projections in the Livermore (city) General Plan, the Pleasanton General Plan, and a projection by the County staff for the Dublin Area and other unincorporated areas in order to arrive at a total for the Planning Unit.

Table III-21

LAVWMA Population Limits
for Livermore-Amador Valley Fundable
Residential/Commercial Sewage Capacity¹

AREA	1996	1998
Livermore	63,575	65,239
Pleasanton	45,229	47,056
VCSD ²	37,381	38,663
Total Livermore Amador Valley	146,185	150,958
Alameda County Portion	131,000 ³	136,000 ³

¹Except where noted, figures are from Final Environmental Impact Statement, Livermore-Amador Valley Wastewater Management Program, prepared by U.S. Environmental Protection Agency, Pacific Southwest Region IX, Table 4-3 (August 1976), and Table IX-2, letter by Daniel F. Murphy, to William H. Fraley, 8-9-76. The limits are from the State Water Resources Control Board, Sacramento, and presumably are based on E-O statewide projections by the State Department of Finance. The "E" refers to a fertility rate and the "O" to zero net migration to the Valley.

²Includes area in Contra Costa County, estimated by Alameda County Planning Department as 15,000 persons in 1996 and 1998.

³Rounded.

Table III-22

Projections of Population in
Livermore-Amador Valley by Local
Government Jurisdictions

Livermore (1995) ¹	74,300
Pleasanton (1996) ²	48,700
Dublin Area (1995) ³	15,100
Other (1995) ³	4,900
Total	143,000

¹Livermore General Plan.

²Pleasanton General Plan.

³Alameda County Planning Department Preliminary Projection.

Table III-23

Projections of Livermore-Amador Valley Population by
Local Jurisdictions Compared to LAVWMA Limits, 1996

	<u>Local Jurisdictions</u>	<u>LAVWMA</u>	<u>Difference</u>
Livermore (1995)	74,300	63,575	10,725
Pleasanton (1996)	48,700	45,229	3,471
Dublin Area (1995)	15,100 }		
Other (1995)	4,900 }	22,196	-2,196
Total (1996)	143,000	131,000	12,000

The Livermore Plan projected a population of 74,300 for 1995 while the Pleasanton Plan projected a population of 48,700 for 1996; the projection for the Dublin Area was 15,100 and the remaining areas 4,900 for 1995. These total 143,000 for the Planning Unit. It should be noted that this is adding three different projections prepared by different jurisdictions not following the same methodology. Livermore's projection represents a limit adopted by a citizens committee for the year 2000 (the 74,300 above is for 1995), then adopted by the Planning Commission and the City Council for their new General Plan. Pleasanton's projection is similar to the LAVWMA projection--a limit related to sewer capacity. The projection for the Dublin Area is an "in-fill" type of projection, based on adding 1,474 housing units by 1990 to the 4,052 units of 1976, with a projected household size of 2.73 persons, for a total population of 15,100 in 1990. The sum of the projections is 143,000, and although they are for different years it is assumed for the purpose of comparison with LAVWMA figures that they represent the year 1996.

Independently of the above projections the County Planning Department staff has prepared a projection for the Livermore-Amador Valley Planning Unit as a whole, without regard to the two cities or other areas. It is a demographic projection, that is, based on the characteristics of the existing population in the Valley. No allowance for migration is made, so that this may be added or integrated later if that is indicated by other considerations in the General Plan Review. This projection starts with the 1975 population, estimated as 104,000, and adds only the "natural increase" due to the excess of births over deaths. It assumes continuance of the birth rates of the year 1974. Death rates are assumed to gradually increase from their present low level, associated as we have seen with a young population, to the present countywide rate by the year 1995. The projection also takes into account the large number of women of child-bearing age during the period 1975-1995. Even with a low birth rate (1974) the number of births will increase because the rate will be applied to a large number of women (25,000 in 1975 rising to 41,000 in 1990-1995). The result of this series of calculations is a projected population of 127,000 in 1995-1996.

Assuming the County demographic projection to prove reasonably accurate (1974 birth rates particularly), there would be allowable net migration into the Valley of 4,000 population. These should be reduced somewhat to allow for natural increase added by in-migrants; however, for purpose of review they provide some approximation of the in-migration allowable under the LAVWMA limits.

The Livermore and Pleasanton General Plan projections exceed the LAVWMA limits, Livermore by 10,725 and Pleasanton by 3,471. The County preliminary projections for Dublin and other unincorporated areas are below the LAVWMA limit by 2,196. If LAVWMA limits are to be adopted as population limits the Livermore and Pleasanton plans will require amendment.

The County's preliminary demographic projection of 127,000 and the LAVWMA limit of 131,000 both assume zero net in-migration. The difference is therefore in the projection of natural increase, and particularly in births or fertility. If birth rates increase during the 20 year projection period the population will exceed 127,000. If birth rates average less than the 1974 rate in the 20 year period the population will be less than 127,000.

3. Economic Overview

For the purposes of description and analysis, the economy of the Livermore-Amador Valley Planning Unit may be divided into four sectors. The first of these is the land resource industries of agriculture and quarrying. This part of the economy is the oldest and it was predominant in the Valley until the early 1950's. Today, though agriculture and quarrying are not important parts of the Valley's economy in terms of its total employment or income, the two enterprises are concerned with vital resources, and because of their proximity to present urban development, they are significant factors in defining the extent and pattern of urbanization in the Planning Unit.

A second part of the economy is that headed by research, manufacturing and wholesaling. This sector provides the basic employment in the Valley. The key establishment is the Lawrence Livermore Laboratory. In 1970, the Laboratory provided approximately one-quarter of all employment located in the Valley. The Laboratory's role in the Valley's economy goes further than the size of its employment. The atomic, laser, and high energy physics research facility has set an image of the Valley as a center for research. Today the Valley not only has many research facilities in areas associated with the Lawrence Livermore Laboratory, but also has establishments involved in all types of research.

A third part of the economy of the Livermore-Amador Valley could be called the "commuter" sector. The central element in this sector is the employed residents who travel outside of the Valley, principally to cities along the Bay, to work. In 1974, just under half of the employed residents were a part of this sector of the economy. Two characteristics of the commuter sector are the importance of transportation and the dominance of residential land uses in the Valley.

A fourth and last sector of the economy of the Livermore-Amador Valley is retail and personal services. This sector provides products and services for local consumption. Retail sales in Livermore and Pleasanton are both low when compared to other communities of about the same size, indicating that residents travel to areas outside the Valley to fulfill many of their needs.

Each of the four parts of the economy of the Livermore-Amador Valley has its own problems, its own potential, and its own implications for the future of the Valley. Further, each part does not stand alone, but interacts with the others. In planning for the future of the Valley, the positive and negative aspects of each sector of the economy needs to be considered, and resolved in a sound whole.

a. Employment and Business

The Livermore-Amador Valley Planning Unit has an unusually high amount of employment in government. The central reason for this large portion of employment in government is the Lawrence Livermore Laboratory and associated research facilities. Wholesale trade does not employ a large proportion of those who work within the Planning Unit, but it did experience considerable growth in the 1960's as the Valley is at the crossroads of two major, regional highways and centrally located in relation to the population of the Bay Area. Retail employment and sales are low. There is no regional shopping center in the Valley, and residents go to Walnut Creek, Hayward, and other areas for many of their purchases. Though agriculture has lost ground to urbanization, which has taken much of the best land for farming, employment in the sector rose slightly in the 1960's. Finally, the Planning Unit had less than ten percent of its employment in manufacturing in 1970, and less were employed in manufacturing than in agriculture.

b. Economic Characteristics of Residents

The residents of the Livermore-Amador Valley has the highest median incomes of any of the Planning Units in the County, according to the 1970 Census, though the level was not dramatically higher than that of communities in the Washington or Eden Planning Units. The resident labor force has the highest proportion of professional, technical and kindred workers, managers and administrators, and the lowest proportion of clerical and sales workers of any of the Planning Units, further signs of the relatively high economic standing of Valley residents. Services form the largest industrial category in which residents are employed, just as services represent the largest sector of employment located in the Valley. But among Valley residents, as compared to employment located in the Planning Unit, employment is more evenly distributed among the various industrial sectors. Labor force participation of women in the Valley, which was 36 percent in 1970, was the lowest in any major area of the County, and about 10 percentage points lower than the average for the five county San Francisco-Oakland SMSA.

c. Commuting Patterns

There is a large amount of commuting of workers both into and out of the Livermore-Amador Valley. In 1970, just over one-half, or approximately 14,000 of Valley residents worked in the Valley. However, the proportion of commuters in the Valley varied greatly between Pleasanton and Dublin on the one hand, and Livermore on the other. In Livermore, 66 percent of employed persons worked in the Valley, while in Pleasanton only 38 percent of employed residents worked in the Valley.

Furthermore, there is a great difference between the commuting patterns of primary and secondary wage earners. Of the primary wage earners 49 percent worked in the Valley; the corresponding figure for secondary wage earners was over 70 percent.

In addition to 13,000 residents commuting out of the Valley to jobs, there is considerable commuting into the Valley to jobs. In 1970, roughly 7,000 workers traveled from outside to work places in the Valley.

EMPLOYMENT IN THE LIVERMORE COMMUNITY LABOR MARKET, ALAMEDA COUNTY AND THE SAN FRANCISCO-OAKLAND SMSA, BY INDUSTRY 1970

Industry Group	LIVERMORE COMMUNITY LABOR MARKET ¹		ALAMEDA COUNTY ²		SAN FRANCISCO-OAKLAND SMSA ³	
	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT
TOTAL	21,100	100.0	456,100	100.0	1,396,900	100.0
Agriculture, Forestry and Fishing	1,500	7.1	3,600	0.8	10,200	0.7
Contract Construction	600	2.8	22,500	4.9	61,900	4.4
Manufacturing	1,300	6.2	83,300	18.3	201,500	14.4
Transportation, Communications and Utilities	400	1.9	34,300	7.5	133,200	9.6
Wholesale and Retail Trade	2,200	10.4	96,200	21.1	265,500	19.0
Finance, Insurance and Real Estate	600	2.8	19,400	4.3	96,700	6.9
Services	4,700	22.3	89,100	19.5	222,500	15.9
Government	9,700	46.0	106,500	23.3	271,500	19.5
Other	100	0.5	1,200	0.3	133,900	9.6

¹Community Labor Market Surveys Division, State of California Department of Human Resources Development, Research and Statistics, September 1970. Data listed above represents all civilian employment for Livermore and Pleasanton Census Divisions in July 1970.

²Computed from data in reference 1 above.

³Area Manpower Review Division, State of California Department of Human Resources Development, Employment Data and Research, April 1973. This data represents estimates made by HRD for civilian employment in the San Francisco-Oakland SMSA in 1970. Employees, self-employed workers, unpaid family workers, and domestic servants have been included in the "other" category, rather than the specific sector, in which they worked, as was the case in the data for the Livermore Community Labor Market and Alameda County. Forestry and Fishing are also included in the "other" category of the SMSA data.

Table 111- 25

EMPLOYMENT IN THE LIVERMORE COMMUNITY LABOR MARKET BY INDUSTRY:
1960 AND 1970

Industry	1960		1970	
	Number	Percent	Number	Percent
Total	10,300	100.0	21,100	100.0
Agriculture, Forestry and Fishing	700	6.8	1,500	7.1
Construction	200	1.9	600	2.8
Manufacturing	800	7.7	1,300	6.2
Transportation, Communication and Utilities	200	1.9	400	1.9
Wholesale and Retail Trade	800	7.8	2,200	10.4
Finance, Insurance and Real Estate	100	1.0	600	2.8
Services	2,500	24.3	4,700	22.3
Government	4,900	47.6	9,700	46.0
Other	100	1.0	100	0.5

SOURCE: Based on data from the State of California, Department of Human Resources Development, Research and Statistics Division, Community Labor Market Surveys, September 1960 and September 1970. Data represents all civilian employment for Livermore and Pleasanton Census Divisions in July 1960 and July 1970.

MEDIAN FAMILY INCOME, AND MEDIAN FAMILY AND UNRELATED INDIVIDUAL
INCOME OF PLACES IN AND AROUND THE LIVERMORE-AMADOR VALLEY PLAN-
NING UNIT: 1970

Area	Median family Income	Median income of families and Unrelated individuals
San Ramon Valley		
Alamo-Danville (14,059)	\$17,586	\$16,168
Walnut Creek (39,844)	14,647	12,375
San Ramon (4,084)	14,408	14,406
Livermore-Amador Valley		
Pleasanton (18,328)	14,466	13,743
Dublin (13,641)	12,782	12,533
Livermore (37,703)	12,440	11,600
Washington Planning Unit		
Fremont (100,869)	12,659	11,933
Newark (27,153)	12,114	11,758
Union City (14,724)	11,320	10,710
Eden Planning Unit		
Castro Valley (44,760)	12,981	11,706
San Leandro (68,698)	11,938	10,537
Hayward (93,058)	11,099	9,868
Central Metropolitan Planning Unit		
Alameda (70,968)	10,674	6,973
Berkeley (116,716)	9,987	4,259
Oakland (361,561)	9,626	6,787
Central Valley		
Modesto (61,712)	10,274	8,510
Tracy (12,724)	9,865	8,571
Stockton (107,644)	\$ 9,533	\$ 6,706

SOURCE: Based on data from U.S. Bureau of the Census, Census of Population: 1970. General Social and Economic Characteristics. California. Final Report PC(1)-C6. U.S. Government Printing Office, Washington, D.C., 1972. pp. 6-567 - 6-572, 6-860, 6-862, 6-864, 6-865, 6-870, 6-872, 6-876, and 6-877.

EMPLOYMENT OF LIVERMORE-AMADOR VALLEY PLANNING UNIT RESIDENTS
BY OCCUPATION: 1960 AND 1970

Occupational Group	1960 ¹		1970 ²	
	Number	Percent	Number	Percent
Total	9,417 ³	100.0	26,609	100.0
Professional, technical, and kindred workers	2,580	27.4	6,879	25.8
Managers and administrators	1,049 ⁴	11.1	2,900 ⁵	10.9
Sales workers	437	4.6	2,077	7.8
Clerical and kindred workers	1,362	14.5	4,198	15.8
Craftsmen, foremen, and kindred workers	1,495	15.9	3,866	14.5
Operatives, except transport	780	8.3	1,369	5.1
Transport equipment operatives			974	3.7
Laborers	727 ⁶	7.7	999	3.8
Farm Workers	NA ⁷	NA	312	1.2
Service Workers	821	8.7	2,776	10.4
Private household workers	166	1.8	259	1.0

¹Persons 14 years and older.

²Persons 16 years and older. In 1960 14 and 15 year olds constitute less than one percent of the employed population of Alameda County.

³Total in 1960 includes 606 employed persons who did not report their occupation. This number was distributed proportionately to each category.

⁴Including farm managers.

⁵Not including farm managers.

⁶Not including mine workers.

⁷Farm workers are included in laborers category.

SOURCE: Based on data from the U.S. Bureau of the Census, U.S. Censuses of Population and Housing: 1960, Census Tracts, San Francisco-Oakland, California Standard Metropolitan Statistical Area, Final Report PHC(1) - 137, U.S. Government Printing Office, Washington, D.C., 1961, Table P-3, "Labor Force Characteristics of the Population by Census Tract: 1960," p. 217 and; U.S. Bureau of the Census, Census of Population and Housing: 1970, Census Tracts, San Francisco-Oakland, California Standard Metropolitan Statistical Area, Final Report PHC(1)-189, U.S. Government Printing Office, Washington, D.C., 1972, Table P-3, "Labor Force Characteristics of the Population: 1970," p. 145, 168, and 169.

EMPLOYMENT OF LIVERMORE-AMADOR VALLEY PLANNING UNIT RESIDENTS BY
INDUSTRY: 1960 AND 1970

Industry	1960 ¹		1970 ²	
	Number	Percent	Number	Percent
Total	9,417	100.0	26,609	100.0
Construction	537	5.7	1,916	7.2
Manufacturing	996	10.6	3,707	14.0
Transportation	98	1.0	940	3.5
Communications, utilities and sanitary services	114	1.2	831	3.1
Wholesale trade	87	0.9	1,149	4.3
Retail trade	999	10.6	3,855	14.5
Finance, insurance and real estate	NA	NA	1,035	3.9
Services	4,442	47.2	10,486	39.4
Business and repair services	2,043	21.7	2,307	8.7
Personal services	359	3.8	813	3.1
Health services	495 ³	5.3	1,477	5.6
Educational services	494	5.2	2,482	9.3
Other professional and related services	1,051 ⁴	11.2	3,289	12.7
Public administration	376	4.0	1,580	5.9
Other industries	1,768 ⁵	18.8	1,128	4.2

¹ Persons 14 years and older.

² Persons 16 years and older. Fourteen and fifteen-year olds in 1960 constituted less than one percent of the employed population of Alameda County.

³ 1960 Health Services category includes only hospital services.

⁴ Health Services other than hospital services were included in "Other Professional and Related Services" category in 1960.

⁵ Finance, Insurance and Real Estate was included in the "Other Industries" category in 1960.

SOURCE: Based on data from the U.S. Bureau of the Census, U.S. Censuses of Population and Housing: 1960, Census Tracts, San Francisco-Oakland, California Standard Metropolitan Statistical Area, Final Report PHC(1) - 137, U.S. Government Printing Office, Washington, D.C., 1961, Table P-3, "Labor Force Characteristics of the Population by Census Tract: 1960," p. 217 and; U.S. Bureau of the Census, Census of Population and Housing: 1970, Census Tracts, San Francisco-Oakland, California Standard Metropolitan Statistical Area, Final Report PHC(1) - 189, U.S. Government Printing Office, Washington, D.C., 1972, Table P-3, "Labor Force Characteristics of the Population: 1970," p. 45, 168, and 169.

Table III-29

LABOR FORCE PARTICIPATION OF MEN AND WOMEN 16 YEARS OF AGE AND
OLDER IN LIVERMORE, PLEASANTON, DUBLIN AND CERTAIN OTHER PLACES

Area or place	Men		Women	
	Number	Percent	Number	Percent
<u>Livermore-Amador Valley</u>				
Dublin	3,401	91.3	1,340	35.1
Livermore	9,854	85.9	4,331	36.2
Pleasanton	4,747	87.7	2,027	36.4
<u>Washington Planning Unit</u>				
Fremont	26,141	86.0	13,033	41.4
Newark	6,704	88.0	3,182	40.4
Union City	3,722	84.9	1,937	41.4
<u>Eden Planning Unit</u>				
Castro Valley	12,996	82.5	7,720	45.4
Hayward	25,374	83.1	14,234	44.0
San Leandro	19,685	80.0	11,660	42.6
<u>Central Metropolitan Planning Unit</u>				
Alameda	23,800	85.7	11,222	44.5
Berkeley	30,780	66.1	24,539	50.0
Oakland	94,106	73.0	62,832	43.6
Piedmont	2,786	75.9	1,293	29.2
<u>San Ramon Valley</u>				
Alamo-Danville	3,887	85.2	1,911	39.6
San Ramon	1,070	89.8	465	38.9
Walnut Creek	9,878	75.0	4,848	31.5
<u>Central Valley</u>				
Modesto	14,943	75.6	9,526	41.7
Stockton	25,897	70.7	15,656	39.1
Tracy	3,728	78.6	2,134	39.9

SOURCE: Based on data from U.S. Bureau of the Census, Census of Population: 1970, General Social and Economic Characteristics, California, Final Report PC(1)-C6, Washington, D.C., U.S. Government Printing Office, 1972, pp. 6-503 - 6-508, 6-803, 6-807, 6-810, 6-813, 6-815, 6-819, 6-820, and 6-1006.

Table III-30

ESTIMATED EMPLOYED LIVERMORE-AMADOR VALLEY RESIDENTS WHO WORKED INSIDE AND OUTSIDE OF THE VALLEY: 1970

	Total ¹ Employed	Percent Employed ² Inside Valley	Employed Inside Valley	Percent Employed Outside Valley	Employed Outside Valley
Livermore Area	14,425	66.0	9,520	44.0	4,905
Pleasanton Area	7,304	37.9	2,768	62.1	4,536
Dublin Area	<u>4,880</u>	<u>35.0</u>	<u>1,708</u>	<u>65.0</u>	<u>3,172</u>
Valley Total	26,609	52.6	13,996	47.4	12,613

¹Total employed is from the U.S. Bureau of Census, Census of Population and Housing: 1970. Census Tracts. San Francisco-Oakland, California SMSA. Final Report PHC(1)-189. U.S. Government Printing Office, Washington, D.C., 1972. pp. P-145, P-168, and P-169.

²Percent Employed Inside Valley for Livermore Area is based on November 1974 Livermore special census, and for Pleasanton Area is derived from May 1975 Pleasanton special census. Percent for Dublin Area is an estimate which assumes that Dublin would be similar to Pleasanton in the proportion that commute outside the Livermore-Amador Valley, but would have a slightly greater proportion, 35.0 instead of 37.9 percent.

Table III- 31

EMPLOYMENT LOCATIONS OF RESIDENTS OF LIVERMORE IN NOVEMBER 1974
AND RESIDENTS OF PLEASANTON IN MAY 1975

Location and type of income earner (Total households) ¹	Area in which income earner works				
	Livermore	Pleasanton	Dublin	Total in the Valley	Total out of the Valley
Livermore Primary Earner ² (11,910)	6,039	680	577	7,296	4,614
Livermore Secondary Earner ² (4,813)	2,988	305	448	3,741	1,072
Livermore Total ² (16,723)	<u>9,027</u>	<u>985</u>	<u>1,025</u>	<u>11,037</u>	<u>5,686</u>
Pleasanton Primary Earner ³ (7,370)	541	1,138	469	2,148	5,222
Pleasanton Secondary Earner ³ (3,154)	319	1,023	495	1,837	1,317
Pleasanton Total ³ (10,524)	<u>860</u>	<u>2,161</u>	<u>964</u>	<u>3,985</u>	<u>6,539</u>
Total of Livermore and Pleasanton ⁴ (27,247)	9,887	3,146	1,989	15,022	12,225

¹Total households - This figure includes all those households which responded to the relevant question and which had someone employed in the category.

²Data from City of Livermore special census of November 1974 conducted by the Department of Finance, State of California. "Primary" refers to principle income earner in households. "Secondary" refers to secondary income earners in households.

³Data from City of Pleasanton special census of May 1975 conducted by the Department of Finance, State of California. "Primary" and "secondary" defined as in note 2 above.

⁴See notes 2 and 3 above.

d. Future Employment in the Valley

Employment in the Valley during the plan period, the next two decades, may be expected to reflect the following:

1. The existing employment and industries - government, services, retail, and other.
2. Potential for (a) expansion of existing industries and (b) new industries.
3. Limiting factors such as (a) competition with other areas (b) environmental constraints.
4. The size and characteristics of the population, especially income and fertility.

Of these influences the environmental appears at this time to be foremost. The attainment of acceptable air quality standards will require restrictions on sources of pollution. Population size, industrial development, and transportation are subject to limitation in the interest of air quality and public health. Increases in population involve more traffic, more industry in the Valley to provide jobs or increased commuting to jobs outside the Valley.

Existing employment will form a major role in the plan period. This will be due to the size and outlook of the Lawrence Livermore Laboratory. Employment in May 1975 was 5,659, in May 1976 it had increased to 5,858, and in 1977 may reach 6,200. Energy, resources, and other non-military research will represent 45 percent of the budget compared to 15 percent in 1972.

The influence of the Lawrence Livermore Laboratory in attracting other enterprises is manifest in the Sandia Laboratories employing about 1,000 and in the General Electric Vallecitos Nuclear Center which employs about 500. It should be anticipated that other operations will need to locate in the vicinity.

The potential for expansion of the above industries is limited less by market considerations than for other industries. Rather, it is subject to federal policies and needs and, even more, to the environmental constraints of the Valley, particularly air quality.

The potential for other industries is less apparent. It is limited by competition with other areas which have locational advantages such as Fremont and Hayward in South County and Oakland and Berkeley in North County. The migration of numerous establishments from North County to South County has favored Fremont, Hayward to a lesser degree. The outlook for manufacturing and related industries in the County as a whole is not one of expansion, and in the Livermore-Amador Valley it is less favorable.

These considerations become less serious in view of the environmental limitations. Moreover, a potential for major expansion exists in commercial and service industries. The Valley today is not meeting the demands of its residents for retail goods and services. As a result, local employment opportunities are deficient. Both should be located in the Valley and therefore provision should be made within the environmental limits.

In brief, there are two major industries for which expansion should be anticipated (1) government and allied research, (2) retail and services. The first may be considered "basic" activity, serving an area national in scope, the second "population-serving" activity serving local residents and employees.

Assuming the LAVWMA on 1996 population are adopted, this would mean 131,000 residents in the Valley. The civilian non-institutional part of this population is estimated at 128,000. The proportion 16 years of age and older at the 1974 rate would be 72 percent or 92,000. Of this number, 61.5 percent is likely to be in the labor force,¹ that is interested in paid employment, totalling 57,000. A net of 53,000 jobs would be needed.

Employment of Valley residents averaged 34,000 in 1974-1976. It is inevitable that some residents will commute to employment outside the Valley. In 1974-1976 nearly half (48.6 percent) were in this group, reflecting a lack of employment opportunities in the Valley.

A policy of reduced commuting, consistent with environmental limitations, will be aided by encouragement of retail and service activities in the Valley. Further reduction of air pollution could be achieved by location of needed services close to residents. The distribution of services should accord closely with the distribution of population within the valley.

¹Projection for the nation as a whole by U.S. Department of Labor, Bureau of Labor Statistics.

Table III-32

Place of Work of Residents of Communities in Livermore-Amador Valley Planning Unit, November 1974 - May 1976.

Area	Employed Residents	Place of Work	
		In Valley	Outside Valley
Livermore ¹	16,723	11,037	5,686
Pleasanton ²	10,524	3,985	6,539
Dublin ³	5,258	1,456	3,802
Other ⁴	1,784	1,133	651
Planning Unit ⁵	34,289	17,611	16,678

Percent Distribution			
Livermore	100.0	66.0	34.0
Pleasanton	100.0	37.9	62.1
Dublin	100.0	27.7	72.3
Other	100.0	63.5	36.5
Planning Unit	100.0	51.4	48.6

1. Special Census, November 1974.
2. Special Census, May 1975.
3. Special Census, May 1976.
4. Special Census, May 1976. Area represents part of following Census Tracts: 4501, 4506, 4507, 4511, 4512, 4513, 4514, 4515, 4516, 4517.
5. Since different periods are represented, this total is only for the purpose of analysis.

Table III-33

Employment of Residents of Livermore-Amador Valley Planning Unit, November 1974 - May 1976.

<u>Area</u>	<u>Population</u>	<u>Employed</u>	<u>Employed As Percent of Population</u>
Livermore ¹	48,359	16,723	34.6
Pleasanton ²	31,667	10,524	33.2
Dublin ³	14,244	5,258	36.9
Other ⁴	6,606	1,784	27.0
<u>Planning Unit⁵</u>	<u>100,876</u>	<u>34,289</u>	<u>34.0</u>

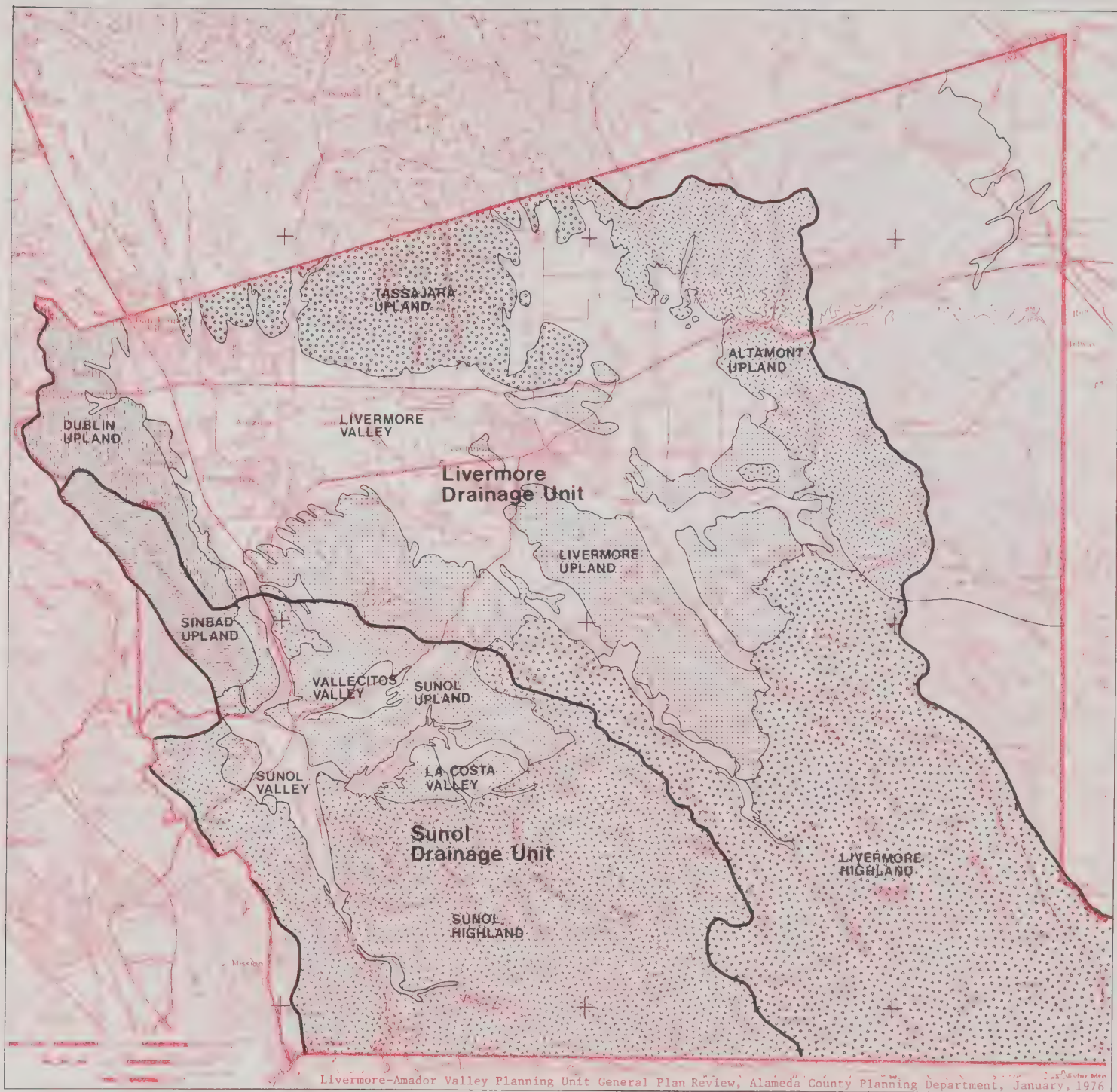
¹Special Census, November 1974.

²Special Census, May 1975.

³Special Census, May 1976.

⁴Special Census, May 1976. Area represents part of following Census Tracts: 4501, 4506, 4507, 4511, 4512, 4513, 4514, 4515, 4516, 4517.

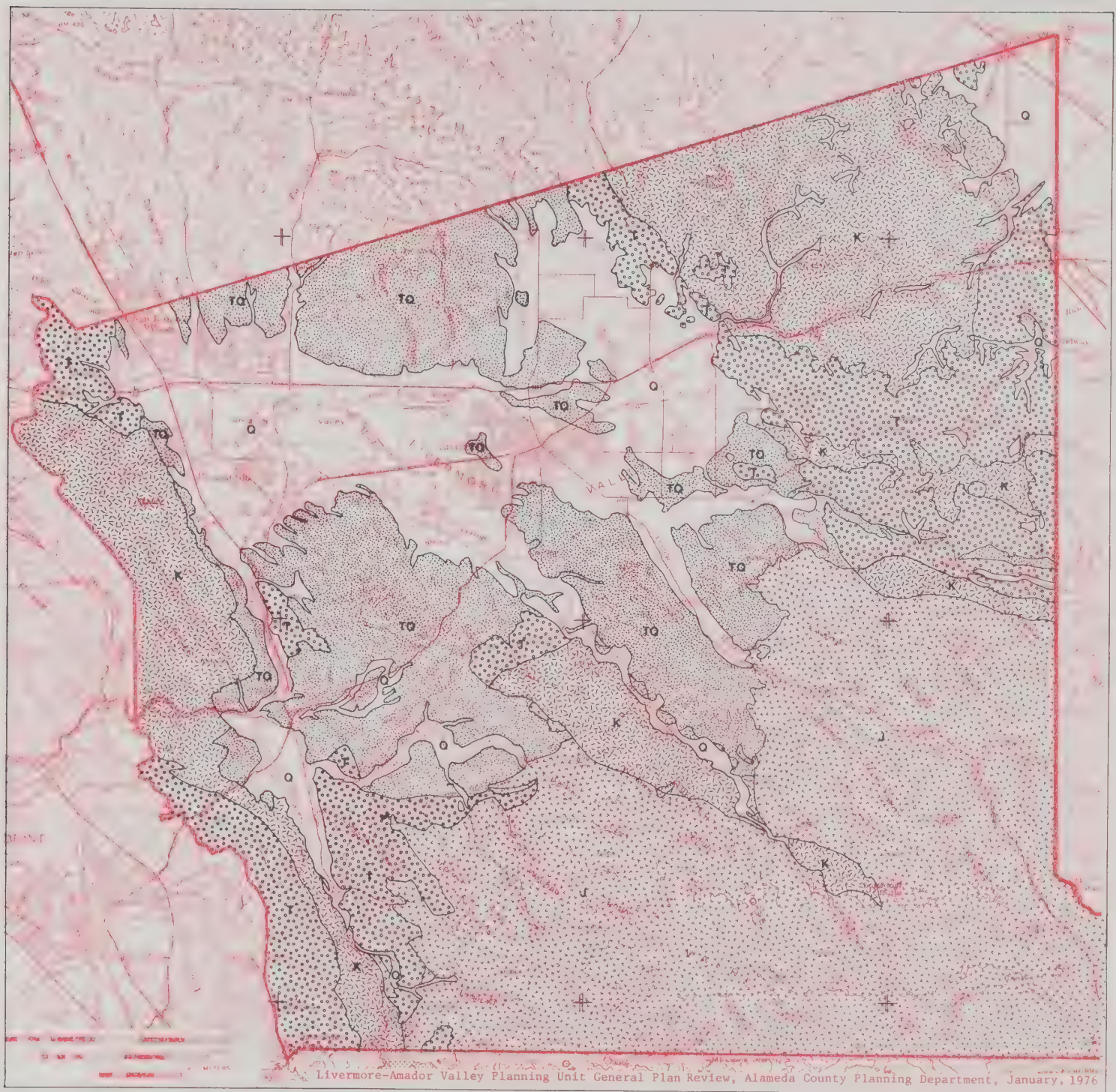
⁵Since different periods are represented, this total is only for the purpose of analysis.



MAP DATA SOURCES:

Bulletin No. 118-2, Livermore and Sunol Valleys, Evaluation of Ground Water Resources, State of California, Department of Water Resources, August, 1966 and June, 1974.

Livermore/Amador Valley Planning Unit
PHYSIOGRAPHIC AREAS: LIVERMORE & SUNOL DRAINAGE UNITS



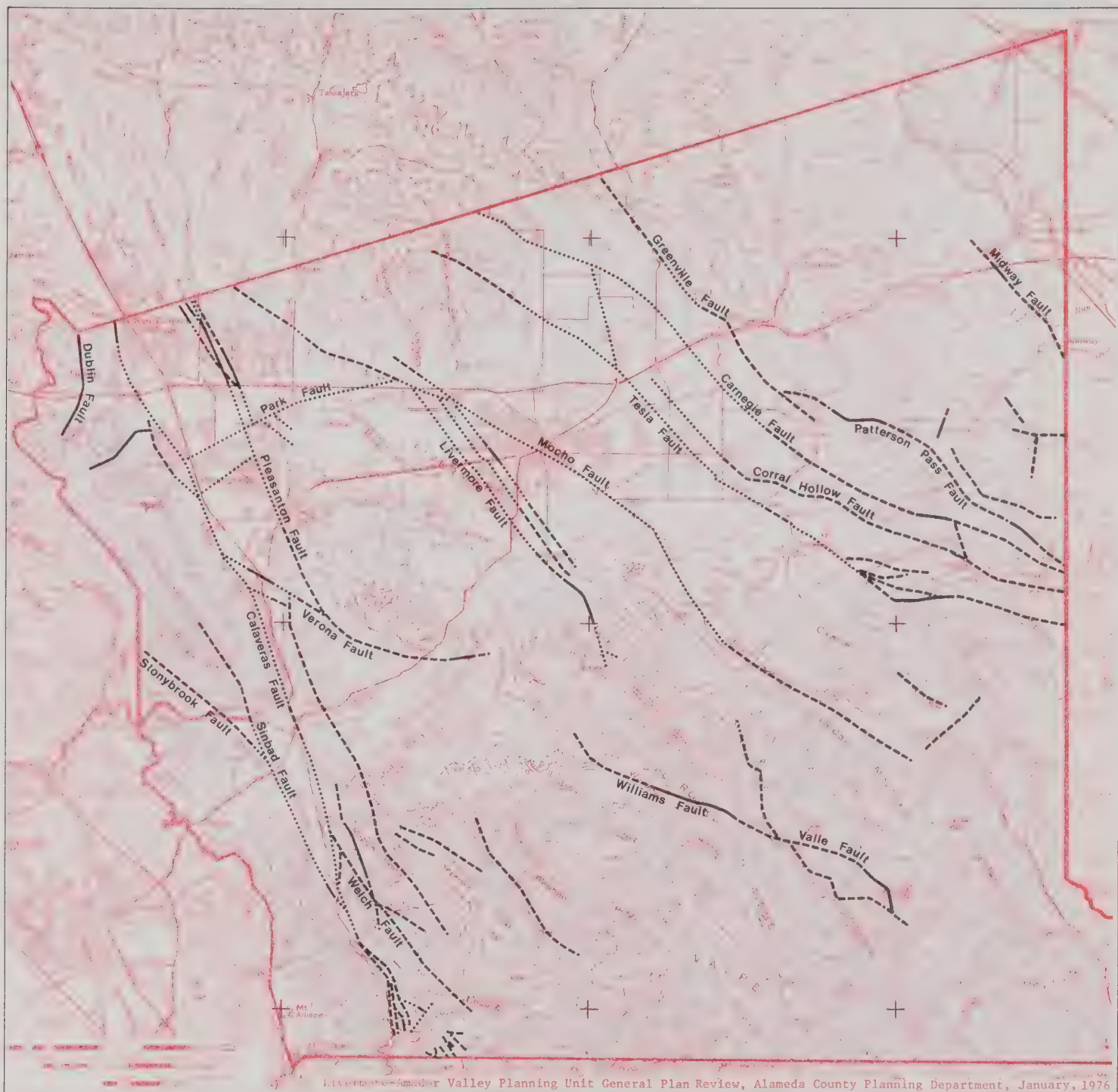
Symbol	Classification
Q	QUATERNARY ALLUVIUM
TO	DEFORMED OLDER ALLUVIUM DEPOSITS
T	TERTIARY ROCKS
K	CRETACEOUS ROCKS
J	JURASSIC ROCKS

MAP DATA SOURCES:

Bulletin No. 118-2, Livermore and Sunol Valleys, Evaluation of Ground Water Resources, State of California, Department of Water Resources, August, 1966 and June, 1974.

1: 62,500 scale "Generalized Geologic and Ground Water Map of Alameda County," State of California, Department of Water Resources, 1974.

Livermore-Amador Valley Planning Unit GENERALIZED GEOLOGIC MAP: GEOLOGIC UNITS



— Fault, dashed where inferred, dotted where concealed.

MAP DATA SOURCES:

1: 62,500 scale "Generalized Geologic and Ground Water Map of Alameda County," State of California, Department of Water Resources, 1974.

**Livermore/Amador Valley Planning Unit
GENERALIZED GEOLOGIC MAP: FAULTS**





Symbol	Classification
	AGRICULTURE
	GRASSLAND
	CHAPARRAL
	OAK WOODLAND
	DECIDUOUS WOODLAND
	MISCELLANEOUS CONIFERS

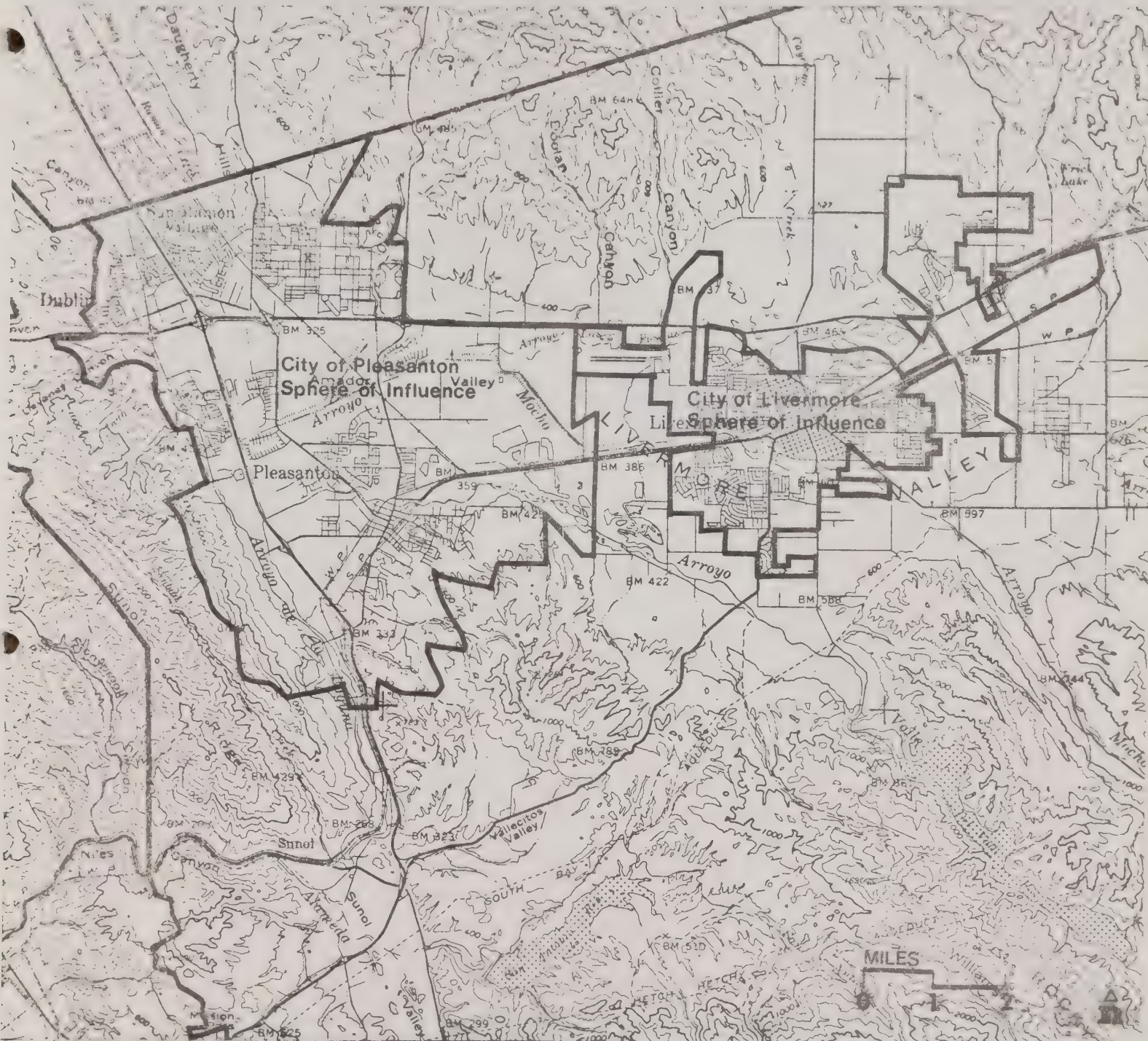
MAP DATA SOURCES:

1: 62,500 scale "Natural Cover Types, Basic Data for the Land Use Portion of the Master Plan, Alameda County, California," Alameda County Planning Department, Natural cover data from vegetation type survey made by California Forest and Range Experiment Station, U.S. Forest Service.

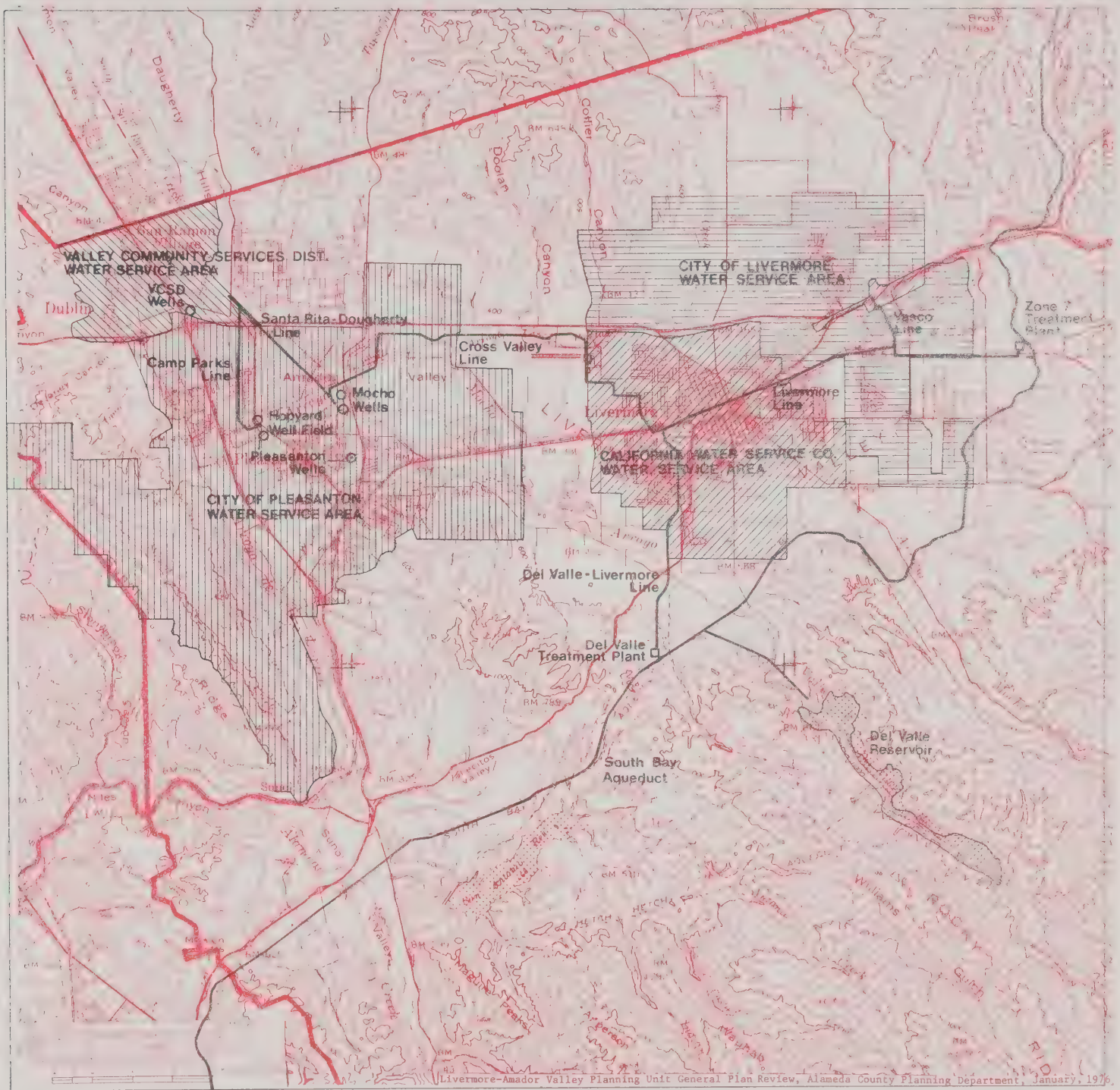
1: 62,500 scale "Atlas of Urban Change, 1973 Open File, San Francisco," U.S. Geological Survey, 1973.

Livermore-Amador Valley Planning Unit PLANT COMMUNITIES



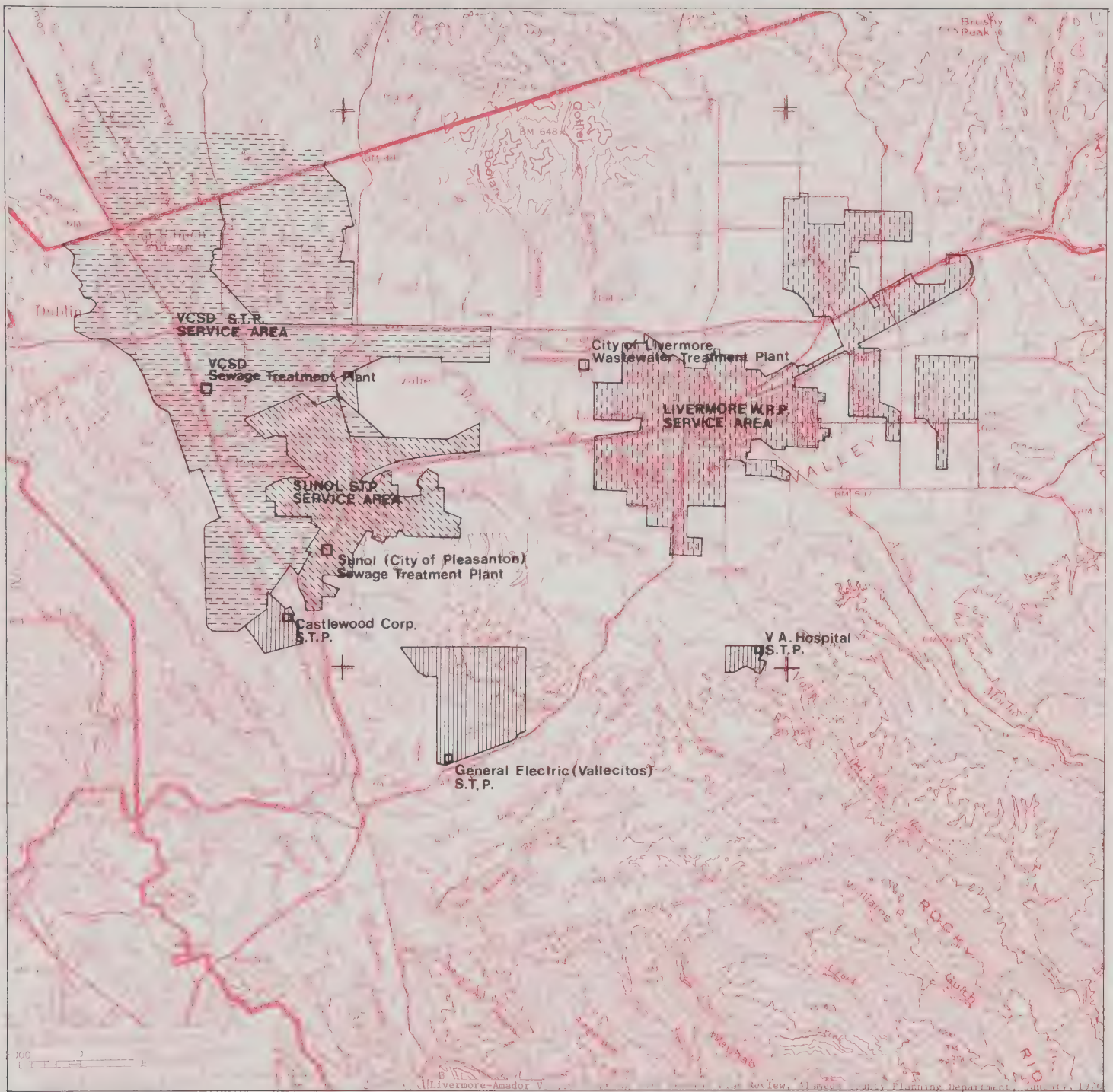


Livermore/Amador Valley Planning Unit
SPHERES OF INFLUENCE

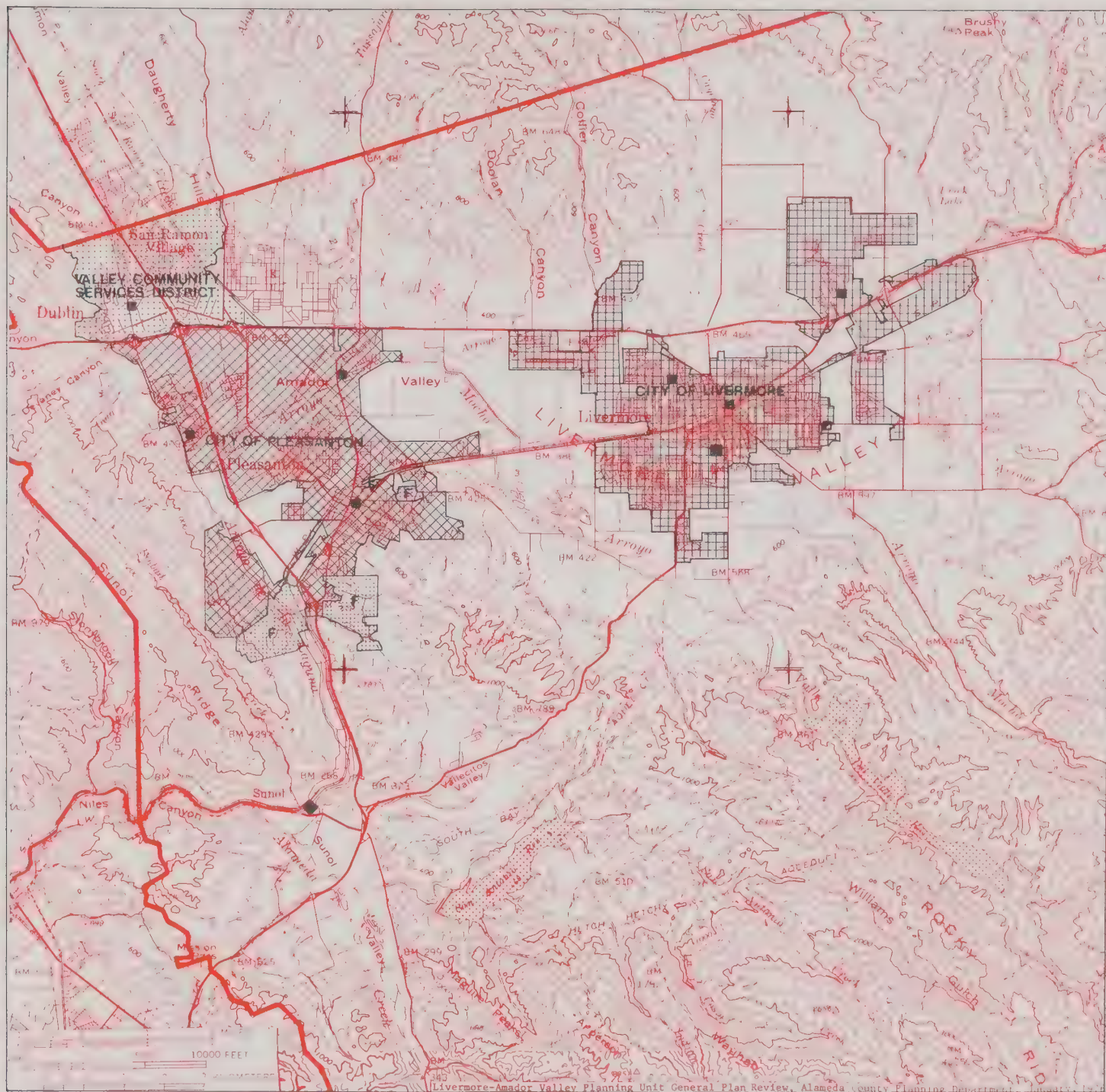


Livermore/Amador Valley Planning Unit

WATER SUPPLY SERVICE AREAS & MAJOR FACILITIES



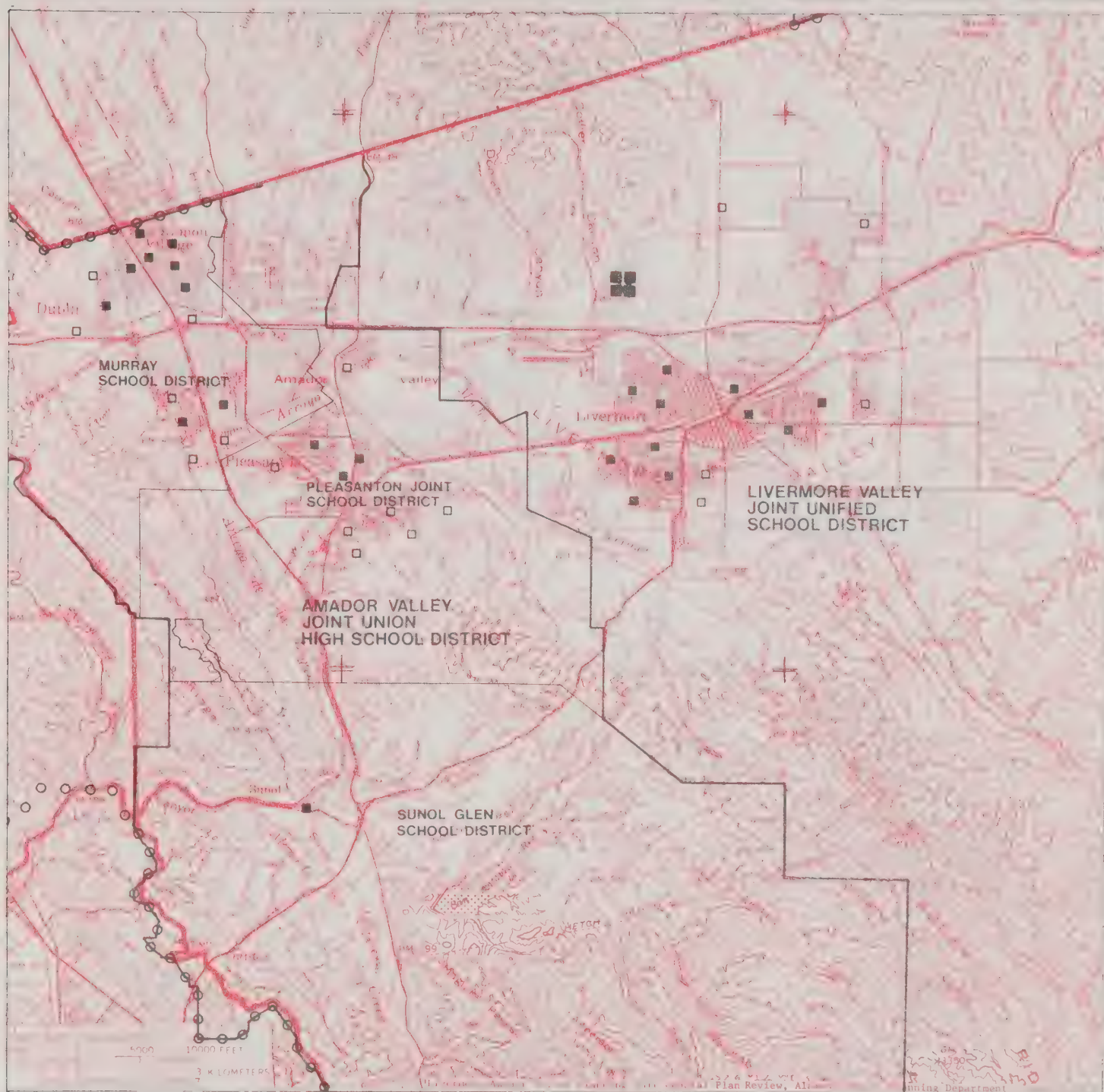
Livermore/Amador Valley Planning Unit
SEWAGE TREATMENT PLANT SERVICE AREAS



Symbol	Classification
	CITY or DISTRICT FIRE PROTECTION SERVICE AREA
	SPECIAL DISTRICT
	FIRE STATION
	CITY or DISTRICT
	COUNTY FIRE PATROL
	STATE DIVISION OF FORESTRY

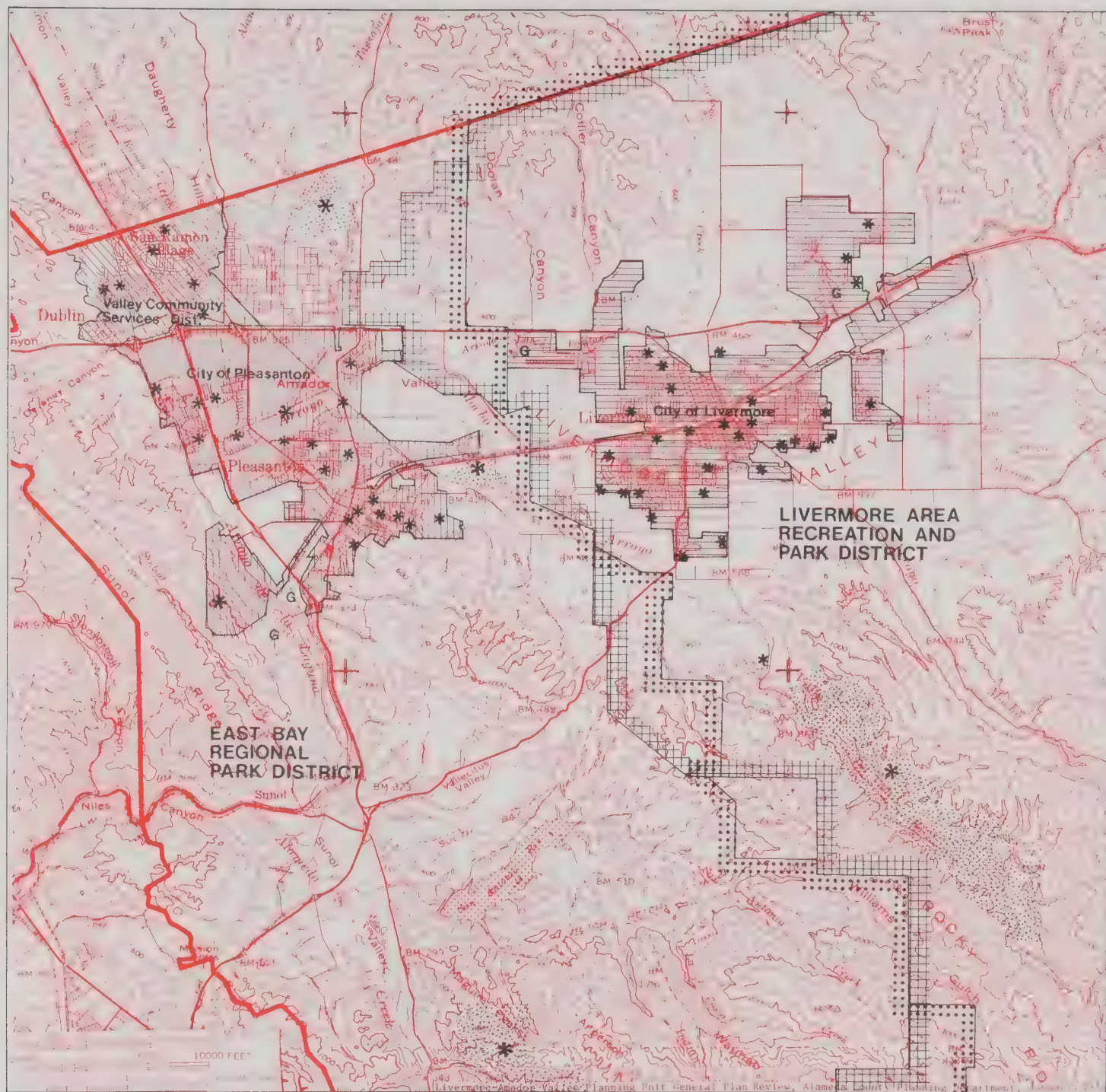
Livermore/Amador Valley Planning Unit

FIRE PROTECTION SERVICE AREAS AND FACILITIES



Livermore/Amador Valley Planning Unit

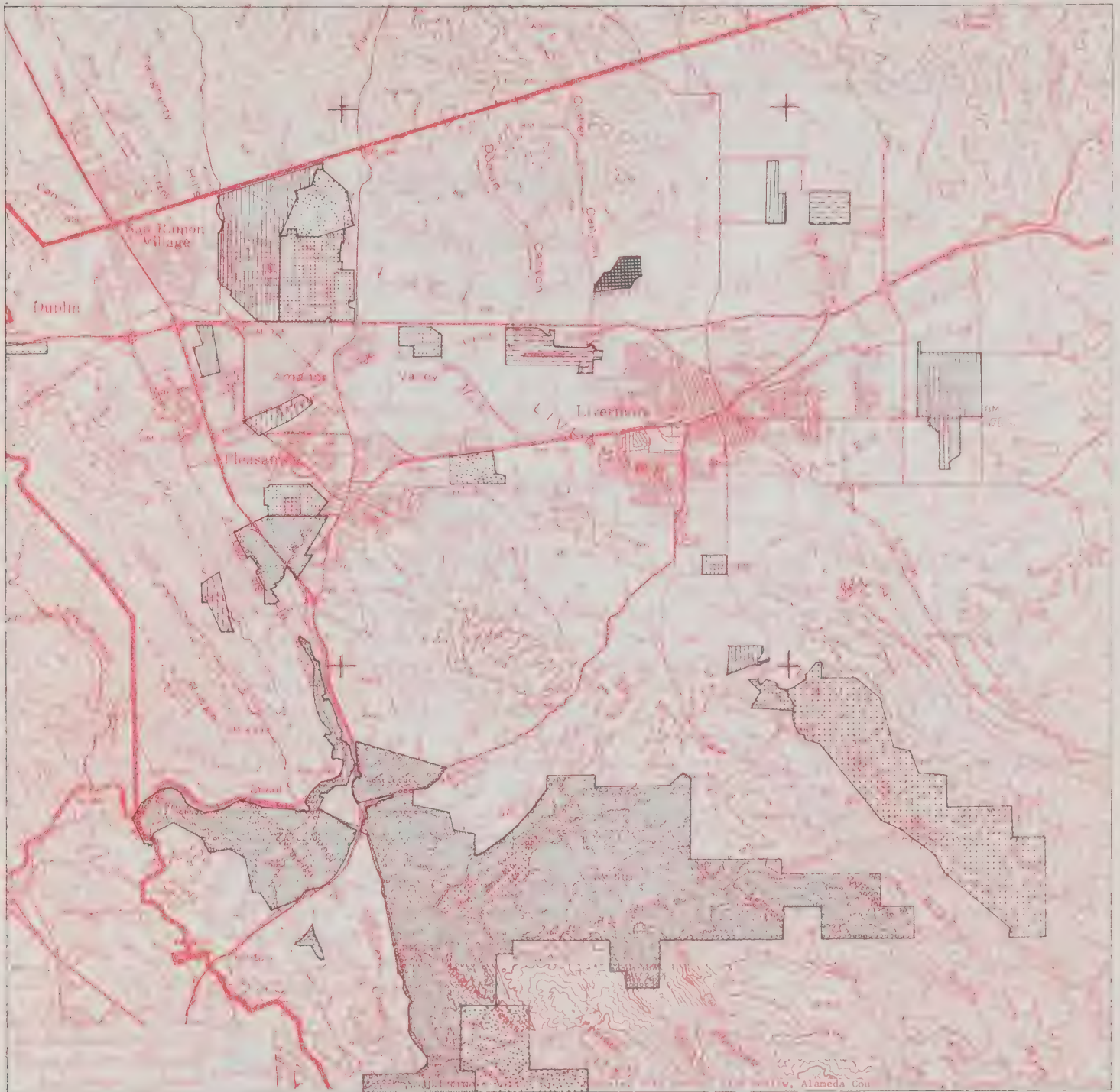
SCHOOL DISTRICTS AND FACILITIES



Symbol	Classification
	BOUNDARY (EAST) E.B.R.P.D.
	BOUNDARY (WEST) L.A.R.P.D.
	NEIGHBORHOOD AND COMMUNITY PARK SITES
	REGIONAL PARKLANDS

Livermore/Amador Valley Planning Unit

PARK AND RECREATION SERVICE AREAS AND FACILITIES



Symbol	Classification
	U. S. A.
	STATE OF CALIFORNIA
	COUNTY OF ALAMEDA
	CITY & COUNTY OF SAN FRANCISCO
	CITY OF LIVERMORE
	CITY OF PLEASANTON
	EAST BAY REGIONAL PARK DISTRICT
	SOUTH COUNTY JUNIOR COLLEGE DISTRICT
Livermore/Amador Valley Planning Unit	
MAJOR GOVERNMENT OWNED LANDS	

IV. GENERAL PLANNING POLICIES AND REGULATIONS

A. Federal Policies and Regulations

1. Environmental Protection Agency

The Environmental Protection Agency is responsible for administration of major federal environmental legislation, listed below, and of federal assistance programs for the development and maintenance of state and local environmental control programs. EPA is also authorized to adopt appropriate standards for environmental pollutants.

The Air Quality Act of 1967 requires states to establish air quality standards and regulating control programs.

Clean Air Act Amendments of 1970 require EPA to set national ambient air quality standards. In 1971, EPA established primary and secondary standards for six classes of pollutants. States must submit implementation plans to achieve national air quality standards by 1975 and to maintain national standards through air pollution control strategies, including source emission limitations and land use and transportation control measures. Under the Clean Air Act amendments of 1970, each state was required to apportion the state into Air Quality Control Regions based upon meteorological and topographical conditions which made the emissions of pollutants in any one area of regional significance. The EPA has required states to designate Air Quality Maintenance Areas (areas in which the National Ambient Air Quality Standards are expected to be exceeded in the next ten years) and submit a Air Quality Maintenance Plan for each area. California has designated the San Francisco Bay Area Basin as an Air Quality Maintenance Area and is in the process of developing an Air Quality Maintenance Plan which will deal with factors controlling all future emission sources in the Area.

The Water Quality Act of 1965 provides that States set water quality standards. California Water Quality Standards were fully approved on January 9, 1969.

Federal Water Pollution Control Act Amendments were passed in 1972. The act required basin plans for water quality control, established a system of permits for all wastewater discharges, authorized grant funds for sewerage facility construction, and, in Section 208, required areawide waste treatment management plans for major urban/industrial complexes. The act specified minimum levels of wastewater treatment required regardless of the point of discharge, and it provided some of the funding and defined the necessary planning for pollution control facilities. It was under these amendments that the EPA funded the Association of Bay Area Governments for preparation of the Environmental Management Plan for the Bay Area. Plan preparation by ABAG and the nine counties is underway.

2. National Environmental Policy Act of 1970 requires every agency of the Federal Government to take into account, and make public, the environmental impact of each major action, as well as to discuss alternatives which were considered and which might minimize environmental damage.
3. Federal Assistance Programs are regulated by "Circular No. A-95" prepared by the Office of Management and Budget. The Circular requires that all applications for federal domestic assistance document comments and recommendations of the appropriate State or regional clearinghouse to assure maximum consistency of proposed federally assisted projects with State, regional, and local comprehensive plans. Circular 95-A also regulates direct Federal development projects. Important federal programs, requiring state and regional clearinghouse review, include:
 - Corps of Engineers Flood Control Projects
 - Department of Housing and Urban Development, Community Planning and Development, New Communities loan guarantees
 - Department of the Interior, Bureau of Outdoor Recreation financial assistance for acquisition and development of outdoor recreation areas and facilities
 - Department of the Interior, Bureau of Reclamation, reclamation projects, loans, and services
 - Department of Transportation, Federal Highway Administration Federal-Aid Highway Program
 - Department of Transportation, Urban Mass Transportation Administration grants and loans
 - Environmental Protection Agency Air Pollution Control Program grants, Construction Grants for Wastewater Treatment Works, Water Pollution Control Grants

B. State Policies and Plans

1. Air Resources Board

The Air Resources Board is empowered by the Mulford-Carrell Air Resources Act to adopt standards of ambient air quality for each of California's ten State Air Basins. The Air Resources Board, is responsible for development of implementation plans to attain air quality standards adopted by the federal government. The plan must provide for land use and circulation controls, source monitoring, air quality monitoring, and a procedure for review, prior to construction, of the location of new sources of air pollution.

2. Department of Conservation: State Geologist

Recently amended California statutes call for the State Geologist to delineate special study zones to encompass all potentially and recently active traces of the San Andreas, Calaveras, Hayward, San Jacinto Faults, and other faults sufficiently active and well defined as constitute a potential hazard. The Alquist-Priolo Hazard

Zones Act also requires the State Mining and Geology Board to adopt policies and criteria for land within designated Geologic Hazards Zones. The act provides that local agency development proposals be in accordance with state criteria and policies.

The State Mining and Geology Board has adopted guidelines for the preparation of geologic studies which are required for proposals for new development on land within the Geologic Hazards Zones. Proposals for new commercial, industrial, and residential development of four or more homes per tract must be based on a geo-technical investigations if located within a Zone. The Board's guidelines were adopted in order to ensure the adequacy of these geologic reports which provide a basis for local land use decisions and project evaluation.

Under the Surface Mining and Reclamation Act of 1975, the State Mining and Geology Board is to determine, establish, and maintain an adequate surface mining and reclamation policy. By January 1, 1977 the Board is to adopt state policy applying to the conduct of surface mining operations including reclamation requirements. The state policy is to be used as standards by local governments in preparing specific and general plans and zoning ordinances.

3. Department of Transportation (CAL-TRANS)

The Department of Transportation is responsible for the preparation of a California Transportation Plan. The State Plan consists of two parts - a policies element, prepared by CAL-TRANS, and facilities plans prepared by regional transportation agencies. Plan preparation was initiated in 1973. A draft policy plan has been completed (September, 1976), and it is presently subject to public hearings and discussion and to review and approval by the Metropolitan Transportation Commission before being submitted to the State Legislature. The CAL-TRANS policy plan and MTC's Regional Transportation Plan will be incorporated into the State Transportation Plan.

4. Water Resources Control Board

The State Water Resources Control Board functions include licensing the appropriation of water, control and prevention of water pollution and enhancement of water quality, and planning and research to support adjudicatory and regulatory functions. The Board administers the 1970 Porter-Cologne Water Quality Control Act and the Clean Water Grant Program, and serves as the State clearinghouse agency for certification of local public and private projects to the Environmental Protection Agency for wastewater treatment works construction grants. It is the policy of the Board to fund and certify only projects or portions of projects needed "to accommodate normal anticipated growth and reasonable reserve capacity." In the San Francisco Bay Region, one of California's two Critical Air Areas, Board policy provides for treatment capacity to serve ten-year population needs as based on Department of Finance Series E, fertility, and 0, net-inmigration

projections. Board regulations provide that "no allowance be made for capacity to serve new independent and undeveloped areas, or to serve areas which were, or are, designed primarily as a separate unit independent from the already existing community, unless the division finds that such allowance is necessary for protection of water quality."

C. Regional Policies and Plans

1. Association of Bay Area Governments (ABAG)

The Association of Bay Area Governments was created by Bay Region cities and counties in January, 1961, to provide a framework for governmental units to work together in solving regional problems and to formulate and implement regional development policies. The Association's formal organization is provided by contractual agreement between member cities and counties acting under authority of the Joint Exercise of Powers Act of the State of California.

ABAG regional plans and policies include the "Regional Plan 1970-1990," "Regional Open Space Plan - Phase II," "Regional Airport Systems Plan - Phase II," "Regional Water, Sewerage and Drainage Program, Phase II - Initial Plan," and General Assembly Policy Statement "Formulation of Long-Range Regional Growth Policy - II."

a. The Regional Plan 1970-1990, including the Plan Diagram, was approved by the ABAG General Assembly on July 30, 1970. The Regional Plan represents a city-centered regional growth policy. Plan policy guidelines and the plan diagram are based on the following regional objectives:

- Identifiable Concentrations of Urban Development Around Community Centers
- Extensive Open Space and Conserved Areas
- Improved Environmental Quality
- A Multiple-Mode Transportation System
- An Operational Regional Organization
- Strong Intergovernmental Cooperation, Coordination and Citizen Participation

Regional Plan Diagram, Major Land Uses and Transportation Facilities, indicates geographic areas where particular categories of land use would be compatible with ABAG objectives, provided development is consistent with the Plan's criteria and standards. In the Livermore-Amador Valley area, the Plan Diagram indicates two Areas of Intense Urban Development, each with a Community Center, surrounded by, and separated by, Permanent Open Space. Major Plan transportation facilities include existing Routes 580 and 680 freeways, proposed Route 84 freeway, and a proposed Metropolitan Rapid Transit extension to connect the Livermore and Pleasanton areas to the existing East Bay Rapid Transit System.

- b. The Regional Open Space Plan - Phase II was approved by the ABAG Executive Committee as an interim element of the "Regional Plan" on April 20, 1972. The Plan identifies open space functions that might be served by open space areas of the "Regional Plan;" these open space functions include:
- Managed Resource Production
 - Natural and Human Resources Preservation
 - Human Health, Welfare, and Well-being
 - Public Safety
 - Outdoor Recreation
 - Shaping Urban Growth
- c. The Regional Airport Systems Study: Final Plan was adopted on November 30, 1972, as a Special Plan Element to the Association's "Regional Plan." The Study presents a plan for a regional airport system and has been incorporated into the "Regional Plan" as its aviation plan element. The "Regional Airport Plan" retains Livermore Municipal Airport as a General Aviation Airport.
- d. Policy Statement: Formation of Long-Range Regional Growth Policy -II was adopted by ABAG General Assembly Resolution No. 3-73 on October 11, 1973, to serve ABAG in preparation of study and planning proposals, commentary on federal grants under A-95 (clearinghouse review) and Environmental Impact Statements required under Federal NEPA Act of 1969, and review of plans of public and private organizations bearing upon the nine-county Bay Area.

The Policy Statement establishes year 1980 and 2000 Regional Growth Quantities and Growth Quantities Range, provides for cooperation with local and regional level governmental agencies to formulate subregional explicit growth policies, and establishes criteria for plans and projects review. Review Criteria require:

- Special justification for proposals encouraging development not related to committed growth patterns or existing service areas;
- Special justification for proposals indicating continued reliance on the automobile;
- Commitment to meeting housing needs with specific provision for low- and moderate-income households;
- ABAG consideration of selected social, economic, and physical/ environmental criteria during plan and project review.

These criteria were applied in ABAG's review of the Las Positas specific plan. On April 17, 1975, the Executive Board opposed the development of a major new community - Las Positas - north of Livermore. Significant new development beyond that already committed by existing cities in the valley was to be reviewed according to the same criteria.

- e. Environmental Management Plan for the Bay Area (208 Study) is being developed by ABAG with \$4.3 million in Environmental Protection Agency funds authorized, May 15, 1975 under the Federal Water Pollution Control Act Amendments of 1972. Section

208 of the Amendments provided for the preparation of areawide water quality management plans in urban/industrial areas. In addition, the EPA decided that the plan for the Bay Area should address problems of air quality and solid waste to the extent allowed under the Act. Therefore, the plan is to be the Environmental Management Plan for the region and the environmental management element of ABAG's Regional Plan. It is being prepared by ABAG in cooperation with local, regional, state, and federal agencies (during the period June 1976 to June 1978).

The goal of the 208 Study is to produce an Environmental Management Plan with the following characteristics:

- It will lead to the greatest possible improvement in water and air quality and problems caused by solid waste, and will lead to compliance with federal and state standards and objectives at the earliest possible date.
- It will not have social, economic, or environmental effects so unacceptable as to prevent implementation.

The Environmental Management Plan is to produce three major groups of products: (1) management plans, (2) assessment of the environmental, social, and economic impacts of the management plans, and (3) a continuing planning program.

- (1) The seven major management plans - each to include control measures and, for most of the plans, the institutional/financial, legislative, and other actions necessary to implement the control measures - are:
 - surface runoff
 - air quality maintenance
 - municipal wastewater facilities
 - other nonpoint sources
 - industrial discharges
 - water conservation, reuse, and supply
 - solid waste (including municipal wastes, hazardous wastes, and wastewater residuals).
- (2) The assessment of the environmental, social, and economic impacts of the selected management plans is required by law. The assessments will be the basis for the selection of control measures for the management plans.
- (3) After the two-year planning period ends in June 1978, the continuing planning program will begin. Functions of the program include: identifying environmental issues and methods for dealing with them, providing information to and requesting feedback from the general public and agencies on the Plan, providing environmental information including forecasting on a routine basis, updating the Environmental Management Plan, and monitoring plan implementation.

2. Bay Area Air Pollution Control District (BAAPCD)

The Bay Area Air Pollution Control District was created by the California Legislature in 1955 and is responsible for policing non-vehicular sources of air pollution within the Bay Area, primarily industry and burning. The District is also authorized to cite smoking vehicles, although the main automotive control program is administered through the State Air Resources Board.

To date, the District has enacted six regulations:

- Regulation One bans dump fires and backyard trash burning, and subjects agricultural burning to meteorological controls.
- Regulation Two directly controls particulate matter, sulfur compounds, lead, nitrogen oxides, odorous substances from industrial and commercial sources, and several types of emissions from incinerator operations.
- Regulation Three controls emissions of "reactive" gases, affecting the formulation, storage, shipment, and use of such materials as solvents, paint, gasoline, and ink.
- Regulation Four, which required residents of Contra Costa County, Napa County, and portions of Sonoma and Solano Counties to install crankcase control devices on 1955-1962 model cars with transfer of ownership, has been superseded by recent developments in state law which impose similar requirements on a statewide basis.
- Regulation Five defines air pollution Alert, Warning, and Emergency stages and explains actions required for each condition. A similar multi-level episode plan was recently adopted by the Air Resources Board for statewide use.
- Regulation Six gives members of the District's Vehicle Patrol the authority to cite and arrest individuals observed to be violating Vehicle Code automotive emissions provisions.

Perhaps the most important indirect control on air pollution is exercised through the District's permit requirements, set out in Division 13 or Regulation Two. The permit provisions require anyone wishing to build or expand a source that emits air contaminants to first apply to the BAAPCD for a permit to build and submit plans and specifications for evaluation by District engineers. Permits to build will be denied if it is determined that such a facility would not meet any of the District's emission requirements or would cause any air quality standards to be exceeded or, if a source-related air quality standard is already exceeded in the vicinity of the proposed site. A second evaluation is required after the source is built before it can obtain a permit to operate. This permit procedure will soon be extended to "complex" sources of air pollution - such as freeways and shopping centers, which indirectly cause air pollution by increasing automobile traffic.

3. San Francisco Bay Area Regional Water Quality Control Board

The San Francisco Bay Area Regional Water Quality Control Board (RWQCB) is mandated by the State Legislature to:

- Obtain coordinated action in water quality control;
 - Encourage and assist in self-policing waste disposal programs;
 - Invite state or local agency investigation on technical matters involved in water quality controls;
 - Recommend to the State Board projects which the Regional Board considers eligible for any financial assistance;
 - Report to the State Board and local health officials any case of suspected water contamination;
 - Consider the effects of its actions in relation to provisions of the California Water Plan or any other plan for development, utilization, or conservation of state water resources; and
 - Encourage regional planning and action for water quality control.
- a. Prepared by the RWQCB, the Water Quality Control Plan, San Francisco Bay Basin (2) was adopted by the State Water Resources Control Board on April 17, 1975. This fully developed water quality control plan supercedes previous water quality plans (including the 1971 Initial Plan) and becomes part of the California Water Plan. The Plan is intended to provide a definite program of actions designed to preserve and enhance water quality and to protect beneficial uses. Part I is the Water Quality Control Plan adopted by the regional and state boards. It consists of the identified beneficial water uses, water quality objectives, plan implementation program for meeting these objectives, environmental assessment of the recommended plan, and a surveillance program to monitor the effectiveness of the plan.

Plan policies and programs relating to wastewater management activities in the Livermore-Amador Valley include the following:

- Water quality objectives for surface waters of the Alameda Creek Watershed, above Niles require specific chemical quality limits (on total dissolved solids and chlorides) to be maintained. Controllable water quality factors shall not cause further degradation, whenever natural factors cause the limits to be exceeded, unless the wastewater discharges are a part of an overall water wastewater resource operational program developed by those agencies affected and approved by the Regional Board.
- Septic tanks and leaching systems should not be planned for any areas where it appears that the total discharge of leachate (under fully developed conditions) to the geological system will likely cause damage to public or private property, degrade groundwater, or create a nuisance or public health hazard.

- The implementation plan for sewerage facilities is consistent with current sub-regional planning in the Livermore-Amador Valley. Responsibility for detailed project level planning and implementation should remain vested in the agencies presently responsible for wastewater management. The Basin Plan estimates that construction of LAVWMA's facilities plan is to begin in 1977 with system operation in 1979.
- b. The Regional Water Quality Control Board's Resolution No. 768 in 1973 requested that City and County Governments:
 - Prohibit the use of septic tanks and leaching systems for sewage disposal (except in certain circumstances), and
 - Prevent the development of any subdivision, trailer park, or similar development that will use its own community system for the disposal of sewage unless certain criteria are met.

4. Metropolitan Transportation Commission (MTC)

The Metropolitan Transportation Commission (MTC) was created in 1970 by the State Legislature to provide comprehensive regional transportation planning for the San Francisco Bay Region. The Commission assumes planning and related responsibilities of the Bay Area Transportation Study Commission and its interim successor, the Regional Transportation Planning Committee. MTC responsibilities include preparation and maintenance of a Regional Transportation Plan and clearinghouse review of Bay Region transportation projects including:

- Construction of any transbay bridge, including modifications which provide for additional traffic lanes or for rapid transit facilities (except projects funded prior to November, 1970).
- Construction of state highways within the Bay Region, unless there is an overriding statewide interest.
- Local applications for state or federal grants of money if the application contains a transportation element. MTC review is not required for Motor Vehicle Fuel License Tax subventions of local governments.
- Multi-county transit facilities using an exclusive right-of-way (except projects authorized prior to adoption of the Regional Transportation Plan).

Regional Transportation Plan was adopted by the Metropolitan Transportation Commission on June 27, 1973, to fulfill the intent of the State Legislation. As a basis for planning, MTC has used land use proposals of the "Regional Plan 1970-1990," approved by the Association of Bay Area Governments. The Regional Transportation Plan includes proposals for a network of transportation arteries connecting residential, commercial, institutional, industrial, and recreational centers of the Bay Region and proposals for major terminals and local support services that feed and connect with the arterial system. Proposed additions to the transportation system are identified as

issues of regional significance and are assigned a priority rating. Livermore-Amador Valley transportation issues included in the 1973 plan were the Interstate Route 580 widening, BART extension to the Livermore-Amador Valley, express bus service from the Hayward BART station, and local bus service in the Livermore-Pleasanton area. The Regional Transportation Plan has been revised three times since 1973, but these revisions were minor with respect to the Livermore-Amador Valley. Adoption of the Policies Element of the State Transportation Plan may affect priority ratings of proposed additions to the system. At present, the widening of Route 580 is underway; and express bus service from the Hayward BART station is operating.

D. Subregional Policies and Plans

1. Livermore-Amador Valley Water Management Agency (LAVWMA)

Under a 1974 joint exercise of powers agreement, the City of Livermore, City of Pleasanton, and Valley Community Services District formed LAVWMA. It is the Agency's responsibility to develop an effluent disposal plan which would meet the waste discharge requirements of the Regional Water Quality Control Board and its Basin Plan for the Livermore-Amador Valley. The Agency's Facilities Plan was completed July, 1976. "The goal of this Facilities Plan is to develop a long-range wastewater management plan which will provide for the protection and best use of the water resources of the area." The selected system calls for exportation of the Valley's sewage effluent to the East Bay Dischargers Interceptor for final discharge to San Francisco Bay. The LAVWMA Board of Directors is seeking State and Federal funding for a system capacity of 19.72 million gallons per day (MGD). Once the local bond issue for 12½% of total costs is passed, State and Federal funding (87½%) is assured.

Total 1998 capacity requirements for Livermore, Pleasanton, and VCSD are 8.50 MGD, 7.09 MGD, and 4.13 MGD, respectively (19.72 MGD total). The Plan bases future residential and commercial capacity on the State Department of Finance's E-0 population projection which will accommodate modest Valley growth on the order of 2% annually. Other capacity is reserved for industrial growth (4.10 MGD) and for conversion of existing septic tanks and private systems. The participating agencies are to be committed to these planned capacities by contract and by LAVWMA board resolution.

E. Alameda County Policies and Plans

1. Local Agency Formation Commission

In 1963, the California Legislature established a Local Agency Formation Commission (LAFC) for each county in the state. The Alameda County LAFC consists of five members - two county officers representing the County; two city officers representing cities in the County; and one public member appointed by the other four members of LAFC. The functions of the Commission are to review and approve or disapprove, with or without amendment, proposals for incorporation

of a new city, creation of a new district, annexation to or exclusion from a city or district, and a variety of changes or organizations of special districts including dissolutions, consolidations, and mergers of special districts. Decisions by the Commission precede any further actions to be taken in such matters.

Recent amendments to state law require that "to carry out its purposes and responsibilities for planning and shaping the local and orderly development and coordination of local government agencies so as to advantageously provide for present and future needs of the county and its communities, the Local Agency Formation Commission shall develop and determine the sphere of influence for each local government agency within the county." The amended statutes define "sphere of influence" as "a plan for the probably ultimate physical boundaries and service areas of a local government agency." The sphere of influence, after adoption by the LAFC, is to be used by the Commission as a factor in making regular decisions. In compliance with amended state law, the actions of the Alameda County Local Agency Formation Commission have been, to date, approval of "Spheres of Influence - Policies, Guidelines, Criteria and Procedures of Alameda County," and adoption of spheres of influence for Livermore, Amador Valley and the Livermore Area Recreation and Park Department as a first of a series of sphere setting actions which will ultimately include all cities and special service districts in the County.

Spheres of Influence - Policies, Guidelines, Criteria and Procedures of Alameda County was approved by the Local Agency Formation Commission at its meeting of March 22, 1973. This document establishes priorities on annexations and special district formation, and provides that the "general policy of the Commission, subject to logical exceptions, is that all urban development, whenever reasonable, shall be municipal development." This policy provides that first priority shall be given to annexation to a city, rather than a special district, if both can provide the same services at approximately the same cost of environmental impact; second priority shall be given to annexation to a district or a city rather than formation of a new special district or city; and formation of a new political entity as the last alternative. LAFC's 1973 policy statement also provides that "intensive urban development should not occur outside the established sphere of influence lines, except when a future city is planned, and that "in most cases, all unincorporated areas within the city's sphere of influence, which are generally within reach of essential city services, should be annexed first," and that "areas lacking one or more essential city services or facilities shall be considered for annexation only on an exceptional basis."

The sphere of influence of Livermore, recently established after reconsideration of the previously adopted sphere, locates sphere boundaries coterminous with existing City limits. LAFC's rationale supporting the reduced sphere includes the findings that (a) "the City is unable or unwilling to provide services and facilities in the area outside of its present boundaries; (b) that the managed

population growth proposed by the City, projected at two percent per year population increase, could be accommodated within existing city boundaries (for approximately nine years under existing and proposed city general plan policies, and which could be accommodated for a much longer term under more concentrated densities); (c) a preponderance of residents and property owners within the previously adopted sphere of influence and outside the city are in strong disagreement with the city and its plans and policies for development of their area; (d) that the maximum possible service area for which the city is able or willing to provide a full range of services does not extend beyond its own existing boundaries."

For the Pleasanton sphere of influence, LAFC determined " . . . that a single sphere of influence be established for the Amador Valley which designates the City of Pleasanton as the local agency for said sphere and which excludes any sphere of influence for the Valley Community Services District, at this time."

2. Alameda County Planning Function

The California State Planning and Zoning Law requires that each county in the State establish a planning agency whose primary function is development and maintenance of a comprehensive long-term general plan for the physical development of the county. In Alameda County, the planning agency consists of the County Planning Commission and planning staff. The Department serves in an advisory capacity to the County Board of Supervisors, and makes recommendations regarding plans, policy and courses of action involving matters affecting the physical, social, and economic development in the County. The Board of Supervisors adopts policy for the County in the form of the Alameda County General Plan and Plan Elements.

General Plan Program:

County plans, adopted by the Board of Supervisors, include the Alameda County General Plan (1966, amended to 1976), consisting of the following adopted Elements: Land Use, Circulation, Open Space, Conservation, Seismic Safety, Safety, Noise, Housing, Scenic Routes, and Park and Recreation.

V. ISSUES

A. Introduction

The Livermore-Amador Valley has become the focus of attention and controversy in the past decade. The question of growth and development has steadily moved to the forefront of consideration and debate. In the preceding period, the Eden Planning Unit had reached a leveling off of growth, leaving only two areas in the Valley to accommodate new population: the Livermore Valley and the Tri-City area. The pressures for residential and residential-associated uses, as well as commercial uses, have continued in areas of Alameda County outside the central urban areas.

In Considering the major issues which should be resolved in order to provide direction for the new plan for the Valley, the following steps should be taken: 1) identify and define the issues and 2) determine, if possible, which issues should be resolved first in order to resolve the other issues, all of which are inter-related.

B. Interrelation of Issues

Two closely related issues in the Livermore-Amador Valley are population and agricultural lands, since expansion and growth of residential and other uses are commonly at the expense of agricultural land. A policy of retaining lands important for agriculture was adopted by the State several years ago. But the firmness of this policy when subjected to urban pressures required difficult decisions by local government.

The problem of air quality in a sense is closely related to the agricultural question. In past decades the loss of agricultural land was the major effect in the spread of suburbia, while today in the Livermore Valley the maintenance and improvement of air quality has become the principal consideration. Would decisions retaining agricultural lands also serve to protect air quality and thereby improve the quality of the environment for the residents?

Directly related to air quality is transportation, both the total transportation volume and the means of transportation. Auto emissions, truck traffic, location and size and roads present questions which are parts of the transportation and air quality issues.

It is not only residential but nonresidential uses of land which are involved, in the transportation and air quality issues. To a certain extent the nonresidential uses are predetermined by the size and distribution of population. This follows because much of the commercial and industrial and institutional uses are to serve the resident population. But beyond this are the job needs of the residents. Some of these are served by commercial and institutional uses such as stores, schools, government offices, hospitals, clinics, and various other services. However, a large part of this employment will meet the needs of clerical and sales persons rather than managerial and professional persons. The question of kinds of industrial uses thereby becomes important. This leads directly to another issue: that of commuting.

How should a plan seek to provide employment in the Valley for the residents of the Valley? How many jobs will be needed by the future population which will include many of the present residents in their older adult years as well as new residents likely to be younger adults? The question of job opportunities involves the answers directly affecting the volume of commuting. In addition the question of commuting is not only the major travel outside the Valley but the travel within the Valley. This includes trips from home to place of work and return, shopping trips, and social trips. The location of jobs and services and even people--influence the volume of traffic internal to the Valley. Commuting may be the major part of the problem but it is still only one of several generators of traffic. The overall question of transportation needs must be carefully considered. These needs are increased or decreased by the location of jobs and other services and, not least, homes.

In summary, the issues listed above are interrelated, and so much so that dealing with one has an effect on the other, which effect can help or retard the resolution of the issue. Resolution of these issues and questions will affect both the style and quality of life in the Valley.

C. Environmental Issues

Major environmental concerns in Alameda County include air, water, soil, minerals, water courses, vegetation and wildlife. These are values of the environment. Each is also a major issue in the nation today, for resources are now recognized as scarce and requiring conservation. It is their scarcity in relation to people and their activities which forms the major present concern.¹

In the Livermore-Amador Valley today, it is generally considered that air is the most critical resource. The Valley is the most problematic area within the large critical air basin formed by the Bay counties.

There are differences of opinion regarding the respective proportions of air pollution from local and non-local sources. There is agreement, however, that the Livermore-Amador Valley experiences some of the poorest air quality in the Bay Region, and in particular, some of the highest photochemical oxidant levels in Northern California. Topography and climate render the area susceptible to a high air pollution potential. The area is sheltered, inland valley, east of and in the path of a major wind corridor from the Bay Plain. Topography, along with regional temperature inversion, tends to trap pollutants in the Valley--whether they are locally generated or imported.

Both Air Quality Control Regions and Air Quality Maintenance Areas derive from federal legislation. Under the Clean Air Act amendments of 1970, each state was required to apportion its area into Air Quality Control Regions based upon meteorological and topographical conditions which made the emissions of pollutants in any one area of regionwide significance.

Air Quality Maintenance Areas are those in which the National Ambient Air Quality Standards are expected to be exceeded in the next ten years (before 1985). The Environmental Protection Agency (EPA) has required

¹The scarcity is also in relation to other resources: water in relation to soil, energy minerals in relation to other major resources, etc.

states to designate such areas and submit Air Quality Maintenance Plans to EPA. California has designated the San Francisco Bay Area Basin as an Air Quality Maintenance Area and is in the planning stages of developing an Air Quality Maintenance Plan which will deal with factors controlling all future emission sources in the Area.

Critical Air Areas are designated by the State in consideration of oxidant levels and the difficulty in achieving the Federal air quality standards by 1977, specifically, where it will take more than a 70 percent reduction in oxidant levels to achieve the Federal standard based upon 1970 and 1972 oxidant levels. This includes most of the Bay Region.

Another resource of concern, second only to air is water, both surface and groundwater, for domestic, agricultural, and industrial use. There is concern for the supply, both quantity and quality, imported water as well as local runoff, and for disposal, both storm runoff and wastewater.

Both air and water concerns in the Valley are part of similar concern in the nation at large and have forced Federal and State attention and consequent legislation and regulation.

Development in the Valley today is subject to these Federal and State regulations. Any proposed development must be examined for its potential impact on the environmental values of the Valley. Developments which add or facilitate new population are particularly subject to scrutiny.

D. Population

Population is an issue which concerns the number of people that may be accommodated in the Valley and their distribution within the Valley, particularly in relation to the three existing centers. There are really two issues. The number of people alone affects other questions such as water supply and disposal, transportation, auto emissions, air quality, employment needs, shopping, schools, recreation and parks, open space--all these and more are directly influenced by the size of Valley population.

The second population issue, where people will locate in the Valley, involves a host of different questions: should they be located in the existing centers, around the existing centers, or spatially separate and distinct? Are there lands available for residential development without having to use prime agricultural lands? If people should live in the existing centers, can the new population be accommodated at reasonable densities? What location is most desirable to the residents? What costs in utilities, roads, schools, and other services are involved for the existing and future population by the various ways of locating people? Are there significant savings in utilizing existing schools, roads, and utilities and avoiding future underutilization of capacity? Schools, for example, are already experiencing such problems in other older communities?

The question of where people locate in the Valley is also involved with the role of the cities, the County, the special districts, and the relationships between them. Questions of authority of cities to control their population size, to expand beyond their boundaries to annex border areas, to expand or limit employment, are involved in the general issue of population location or distribution.

The issue of population concerns nearly all others, for this is the source of other problems. Population is also the source of advantages, the number of people in a community making possible many services and assets which otherwise would have to be foregone. It is the number of people within an area, however, which generates problems and costs at various stages of growth. There is, therefore, some optimum level for each area or community. The general plans of the cities, Livermore and Pleasanton, are based on decisions concerning their optimum populations, which in turn are heavily influenced by Federal, State, and regional consideration and actions.

In the background report on Population, it became evident that the question of the number of future residents in the Valley hinges on several considerations in addition to the expressed policies of the cities' general plans: the wastewater facility limits set by the State and by the Livermore-Amador Wastewater Management Agency (LAVWMA), and the County's decision on future population limits in the Dublin or Upper Amador Valley area. The cities' general plan population limits for the 1990's and those of LAVWMA are close in number. The County's decision on Dublin is rendered less difficult by the limited land available for residential increase. Accordingly, the major question for the County is (a) concurrence in the cities' general plans and the LAVWMA ceilings, based upon interagency agreement rather than projected in the conventional manner, (b) determination by the County of an alternative Valley-wide optimum population based on resource limitations and natural increase.

The distribution of population within the Valley is related initially to the issue of size of Valley population. If the total Valley population is to be limited as now proposed in the cities' general plans and/or the LAVWMA ceilings, or even lowered, the three existing centers of population concentration would also be the future centers. If the ceilings are raised, the question of distribution and location of new population reasserts itself. There are advantages in the former course: a basis for decisions concerning capital improvements, for more firm allocations of land for population-serving uses such as stores, utilities, roads, and other facilities. There is also the opportunity afforded of cooperative planning by cities and the County to achieve a Valley-wide plan of value to every agency. Other positive effects include reduced pressure on agricultural lands, parklands, open space, natural resource values, air quality, transportation routes, utilities, and public facilities.

The disadvantages of this policy include foregoing the option of (a) adding new centers of population in the Valley, (b) decreasing the population holding capacity in areas outside the existing three centers-- areas now primarily agricultural or in open space with scattered low-density populations, (c) added pressure on the other areas of the county to absorb new population, probably the Washington Planning Unit primarily but also the Eden Planning Unit.

E. Growth

The question of city expansion, annexation, and incorporation is within the scope of the Knox-Nisbet Act which requires that spheres of influence be drawn by the Local Agency Formation Commission. If new population is to be accommodated, the question of where it is to be located, inside

or outside the existing centers in the Valley, becomes urgent. If present boundaries of these centers, political in the case of Livermore and Pleasanton, and natural in the case of Dublin, are to be limits of expansion, new population may involve additional centers, such as the proposed community of Las Positas or others which may meet the criteria set by the Board of Supervisors. At the present time, spheres of influence have been adopted by the Local Agency Formation Commission for both Livermore and Pleasanton. In mid-1975 the limits for Pleasanton were set at present city limits plus Dublin and other unincorporated areas around the city.

A question to be considered is the role of Pleasanton in land use considerations in Dublin which lies within Pleasanton's sphere of influence. In early 1976 the sphere of influence for Livermore was set at present city limits. The latter represented a reduction for a larger sphere of influence set in early 1975. The issue here is the desirable distribution of population in the Valley. The present situation, if it continues, would lead to probably annexation of Dublin by Pleasanton. A closely related issue is that of incorporation of new communities, including Dublin or other new communities which may be established.

F. Agriculture

The issue concerning agricultural land is the competition between agriculture and other land uses, particularly residential. The question is not the desirability of agricultural land. Federal and California State policies have long favored retention of agricultural lands and sought to halt their conversion to urban uses. Through subsidy and tax relief, federal and state governments have sought to stay the process and reduce the rancher's incentive to sell land for other uses. But the problem is resistant in areas bordering cities--prime agricultural land typically is located downstream in flat areas profitable for urban development; the problem is inherent in the location of the land. From 1960 to 1975 there were 2,340 acres of prime agricultural land in the Livermore-Amador Valley lost to urban and quarrying uses (Preliminary estimate by the County Deputy Agricultural Commissioner). California's Williamson Act of 1965, intended to preserve agricultural lands, is considered to require major amendment. Under a current legislative proposal, Assembly Bill 15, all land considered prime which meets certain other qualifying conditions would be required to be retained for agricultural use.

The retention of agricultural lands around existing population centers in the Valley will be assisted by a policy setting limits to the area to be included in the existing centers. The Knox-Nisbet Act of 1963 providing for local agency formation commissions, with joint membership of county, cities, and public, is a logical means for setting such limits. Since local government lacks power of tax exemption or relief and must rely on the State for this means of reinforcing policy of retaining lands in agriculture, the Knox-Nisbet Act thereby takes on more importance for local government. In brief, the issue is the extent to which local government reaffirms and applies State policy.

G. Sand and Gravel

The Livermore-Amador Valley Sand and Gravel Study Committee, comprising representatives from Alameda County, Zone 7, the cities of Livermore and Pleasanton, and the four sand and gravel industries in the Valley, have been requested by the County Board of Supervisors to develop a reclamation plan for areas which have been, or are planned to be quarried. The study principally concerns the extent of the aggregate resource, possible interference of quarry operations and/or of alternate reclamation schemes with Valley groundwater resources. While some consideration will also be given to impacts of quarry uses on agricultural lands, this does not appear to be a major issue before the Committee. Recommendations from the Study Committee will be reviewed in conjunction with the General Plan amendment consideration.

It is reasonable at this time, however, to identify issues relating to ongoing sand and gravel operations. These issues concern the impacts of operations on available prime and agricultural land and on local groundwater resources. The broad issue may be put as potential incompatibilities of alternate management programs applied, either to the same natural resource or to two or more resources or values which occur together. In this case three critical resources--sand and gravel deposits, agricultural lands, and groundwater supplies--are found in the same area. The State, in Development Guidelines for Areas of Statewide Critical Concern, acknowledges, but does not resolve either the narrow or broad issues. Prime agricultural lands, sand and gravel deposits, and groundwater resources are all identified as critical concerns to the State and, theoretically, of equal concern. Guidelines developed by ABAG for identifying resources of critical regional concern may serve as a guide in ranking these and other resources.

H. Commercial and Industrial Development

The problem of spheres of influence, annexation, and incorporation is related to questions of land use and how much there will be of commercial and industrial development and where it should be located. This in turn raises the question of tax base because the location of such development becomes a source of property tax revenue to the city or other jurisdiction in which it is located. Industrial land use needs are difficult to forecast because they include regional and national factors as well as population and other local influences. Experience of the past decade indicates that the 1966 General Plan anticipated larger industrial growth than has occurred and was prepared in anticipation of a larger 1990 population for the Valley, County, and region. Commercial development is more closely related to population and is more predictable. Both Pleasanton and Livermore have lower retail development than cities of their size typically show. Meanwhile Dublin has experienced a rapid increase in commercial development. Taxable retail sales in 1974 were \$69 million, compared to \$50 million in 1973, a rise of 38 percent. Dublin in 1974 approached the level of Livermore's sales of \$72 million and were nearly twice those of Pleasanton's \$36 million. This has occurred even in the absence of a major component of retail sales, namely apparel, since Dublin's 1973 and 1974 sales were low in apparel. The 1975 sales data, when it becomes available, may correct this gap. In any case, retail sales of the 1974 volume are

approaching the level of regional shopping centers. A question is thereby raised of the meaning of discussion concerning location of regional shopping centers in the Valley. Both sales tax revenue and property tax revenue are involved since the jurisdiction in which the commercial development is located will be favored. In a sense this will be at the expense of the other jurisdictions in the Valley. The issue here appears to be one of tax potential of the communities, given continuance of the present tax system. Clearly a question of Dublin's status has emerged with new force, whether continuance as unincorporated, annexation to Pleasanton, or incorporation.

I. Other Issues

The above is limited to major issues on which discussion should occur in order to develop consensus and bases for general plan for the Valley. Other issues not presented here may in some cases prove equally important though the initiative for decision or the necessary information may still be in process of development. It is intended that this paper stimulate discussion on these and other relevant issues of concern to the preparation of plan goals and alternate plans for the Livermore-Amador Valley. Resolution of the issues by the residents and their official representatives will provide a means of formulating policies and goals that will lead to environmentally sound communities in the Livermore-Amador Valley.

J. Classification of Issues

The foregoing major issues may be classified geographically as 1) regional and subregional and 2) Valleywide issues:

1) Regional or Subregional Issues

- Air and water quality
- Water supply and disposal
- Agriculture
- Open Space
- Location of employment
- Transportation and journey to work
- Population numbers and distribution

2) Valleywide Issues

- Spheres of Influence
- Urban Centers: number, size, location and authority
- Extent and density of development
- Quality of environment and life-style
- Housing extent and location
- Commercial and industrial development
- Local transportation

Discussion of issues should relate each local issue to other local issues, as well as to the regional or subregional issues. Federal, State and regional legislation continue to be imposed on local planning to an extent that these may very well shape the course of future development and future life styles in the Valley.

K. Relationship of Issues to Policies

Each issue is a problem or question concerning the future of the Livermore-Amador Valley Planning Unit. The general plan policies, abstracted in the following chapter, are guidelines for the resolution of the problems and questions. There is a direct evolution in the planning process from issues to policies, just as there is from policies to plan proposals.

To identify policies that are relevant to each issue, the following listing matches policies to issues.

<u>Issue (V)</u>	<u>Policy (VI)</u>
Population - Number:	Urban Growth: goal, objectives 2 and 3
<u>Population - Distribution</u>	
<u>Extent:</u>	Urban Growth: goal, objectives 2 and 3. Development Pattern: goal, objectives 2, 3, 4, 5, 6, 7, and 8. Air Quality: goal, objective 1. Water Quality: objective 3. Environmental Hazards: goal, objectives 1, 2, and 3. Commercial, Industrial, and General Economic Development: objectives 3, 5, and 6. Agriculture: goal, objective 1. Mineral Extraction: goal, Recreational, Historic and Scenic Resources: goal, objectives 3 and 4.
<u>Density:</u>	Development Pattern: goal. Air Quality: goal, objectives 1 and 2. Water Quality: objective 2. Housing: goal, objective 3. Commercial, Industrial and General Economic Development: Objective 3. Transportation: objective 1.
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<u>Open Space:</u>	Development Pattern: goal, objectives 3, 5, 6, 7, 8. Recreational, Scenic, and Historic Resources: goal, objectives 2, 3, and 4.
<u>Spheres of Influence:</u>	Control of Urbanization and Responsibility for Services: goal, objectives
<u>Air Quality:</u>	Air Quality: All
<u>Water Quality, Supply & Disposal:</u>	Water Quality: All

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Commercial and Industrial
Development:

Urban Growth: goal, objective 4.
Housing: objectives 5 and 6.
Commercial, Industrial, and General
Economic Development: All.
Transportation: objective 1.

Location of Employment:

Urban Growth: goal, objective 4.
Housing: objectives 6 and 7.
Commercial, Industrial, and General
Economic Development: goal, objectives
1, 4, 5, and 6.

Transportation and Journey
to Work:

Urban Growth: goal, objective 4.
Housing: objectives 5 and 6.
Commercial, Industrial, and
General Economic Development:
goal, objective 1. Transportation:
All.

Agriculture:

Development Pattern: goal, objective
6. Agriculture: goal, objectives 1
and 3.

Sand and Gravel:

Development Pattern: goal, objective
6. Mineral Extraction: 2, 3, and
4.

VI. POLICIES AND PLAN PROPOSALS

A. Introduction

Goals and objectives relating to each of the issues discussed in the preceding chapter are in Sections B and C below. In Section D alternative plan proposals, based upon the goals and objectives, are presented.

The goals and objectives are derived from similar policies in the Alameda County, City of Livermore, and City of Pleasanton General Plans, which were reviewed in light of the issues. Other policies of the County and the cities have not been included and have not been used to generate the goals and objectives.

Where the three jurisdictions have adopted policies which appear to be in agreement, goals and objectives are included which reflect the policies. After each goal or objective, references are given to the page of the similar policy in each of the general plans. These goals and objectives are contained in Section B.

Where policies in the general plans of the three jurisdictions appear to differ and may be controversial, the different policies in each plan have been quoted for comparison, and a recommended policy is suggested. These unresolved policy areas are contained in Section C.

The goals and objectives are proposed amendments to existing general plan policies for the Livermore-Amador Valley Planning Unit. Proposed new policies supersede present general plan and general plan element policies for the area. Unless noted, all existing policies for the elements¹ are actually included or included by reference in the general plan policy amendment.

The key and sources used in identifying the policies of the three jurisdictions are listed below.

¹The existing Alameda County General Plan elements are Scenic Route, Open space, Conservation, Seismic, Safety, Safety, Noise, Housing, and Park and Recreation.

KEY AND SOURCES FOR THE GOALS, OBJECTIVES, AND POLICIES
OF ALAMEDA COUNTY, CITY OF LIVERMORE, AND
CITY OF PLEASANTON

<u>Key</u>	<u>Sources</u>
A-1 - County of Alameda General Plan.	May 1966. Amended to 1976.
A-2 - County of Alameda General Plan.	Open Space Element. May 30, 1973.
A-3 - County of Alameda General Plan.	Seismic Safety Element. September 29, 1975.
A-4 - County of Alameda General Plan.	Safety Element. September 29, 1975.
A-5 - County of Alameda General Plan.	Conservation Element. September 29, 1975.
A-6 - County of Alameda General Plan.	Noise Element. September 29, 1975.
A-7 - County of Alameda General Plan.	Park and Recreation Element. June 1956. Amended to 1968.

Key

Sources

- A-8 - County of Alameda General Plan. Housing Element. August 1976.
- A-9 - County of Alameda General Plan. Scenic Route Element. May 1966.
- L-1 - City of Livermore Community General Plan 1976-2000. March 1976.
- P-1 - City of Pleasanton General Plan. Supplement. 1976.
- P-2 - City of Pleasanton General Plan. Conservation and Open Space Element. Draft. Revision #2. October 1973.
- P-3 - City of Pleasanton General Plan. Seismic Safety Element. Draft. Revision #2. December 1973.
- P-4 - City of Pleasanton General Plan. Noise Element. Draft. Revision #2. December 1973.
- P-5 - City of Pleasanton General Plan. Housing Element. Draft. Revision #2. October 1973.

B. Goals, Objectives, and Policies

1. Urban Growth: Rate and Amount

Goal: To guide both the rate and amount of residential, commercial, and industrial development in order to achieve a balance of uses, both a sound private and public economy, and an aesthetic and healthful environment.

(Alameda County - Similar policy: A-5, p. 1-78.
Livermore - Similar policy: L-1, p. 82-83.
Pleasanton - Similar policy: P-1, p. 4.)

Objectives: Phase Urban Development

To phase urban development so that growth will occur in an orderly manner and community services can be provided efficiently.

(Alameda County - Similar policy: A-1, p. 27.
Livermore - Similar policy: L-1, p. 110.
Pleasanton - Similar policy: P-1, p. 4, 9.)

Urban Growth Not to Exceed Capability to Provide Services

To limit the rate and amount of development in the Planning Unit so that urban growth will not exceed the community's capability to provide services.

(Alameda County - Similar policy: A-1, p. 26.
Livermore - Similar policy: L-1, p. 83.
Pleasanton - Similar policy: P-1, p. 4.)

Prevent Air Quality Deterioration

To prevent further deterioration of air quality in the Planning Unit by placing limitations on the rate and amount of urban growth.

(Alameda County - Similar policy: A-5, p. 1-78.
Livermore - Similar policy: L-1, p. 83, 84, 85.
Pleasanton - Similar policy: P-1, p. 4.)

Balance Business and Residential Development

To achieve a better balance between commercial and industrial uses and residential development through the allocation of scarce community resources, such as sewage treatment capacity.

(Alameda County - No similar policy.
Livermore - Similar policy: L-1, p. 84-85, 89, 110.
Pleasanton - No similar policy.)

2. Development Pattern

Goal: To promote a development pattern of consolidated urbanization, which has a variety of mutually compatible land uses and living environments, and of open space, which provides scenic, recreational, and resource production areas, which together minimize the effects of environmental hazards and which make available and prudent use of energy and resources.

(Alameda County - Similar policy: A-1, p. 26, 27, 28, 29, 30-31; A-2, p. 8, 9, 10.
Livermore - Similar policy: L-1, p. 83, 87, 89, 98.
Pleasanton - Similar policy: P-1, p. 5, 6; P-2, p. 5, 6.)

Objectives: Promote Existing Communities as Centers of Urban Growth

Within the context of LAFC policies for two Valley Spheres of Influence, promote the three existing Planning Unit communities as centers of future urban development.

(Alameda County - Similar policy: A-1, p. 27.
Livermore - Similar policy: L-1, p. 98.
Pleasanton - Similar policy: P-1, p. 4, 5.)

Promote Filling-In and Contiguous Development

To promote the filling-in of areas where the development pattern is fragmented and encourage development contiguous to established urban areas in order to consolidate urbanization and efficiently provide services.

(Alameda County - Similar policy: A-1, p. 27.
 Livermore - Similar policy: L-1, p. 98.
 Pleasanton - Similar policy: P-1, p. 5.)

Separate Communities with Open Space

To separate urban communities with non-urbanized areas of agriculture, grazing, recreation, or mineral extraction in order to help prevent monotonous urban sprawl and to preserve and enhance communities' character and identity.

(Alameda County - Similar policy: A-1, p. 28, 30-31; A-2, p. 8, 9.
 Livermore - Similar policy: L-1, p. 93.
 Pleasanton - No similar policy.)

Rural Residential Development¹

Limit Development in Hazardous Areas

To limit development in hazardous areas, such as areas subject to geologic, seismic, fire and flood hazards in order to prevent undue risks to life and property.

(Alameda County - Similar policy: A-4, p. 3-34, 3-35, 3-44, 3-45.
 Livermore - Similar policy: L-1, p. 94, 95, 96, 97, 98.
 Pleasanton - Similar policy: P-2, p. 5, 6.)

Limit Development in Resource Areas

To limit development in areas of valuable resources, such as prime agriculture soils, sand and gravel, watersheds, and permeable soils for groundwater recharge, in order to maintain and protect the availability of these resources.

(Alameda County - Similar policy: A-2, p. 9, 10; A-5, p. 1-77, 1-78.
 Livermore - Similar policy: L-1, p. 86, 89, 90.
 Pleasanton - Similar policy: P-2, p. 5-6.)

Provide and Protect Recreational, Historic, and Scenic Areas

To provide and protect areas of recreational, historic, and scenic value such as ridglands, streambeds, and historic landmarks for the enjoyment and enrichment of residents.

(Alameda County - Similar policy: A-2, p. 8, 9; A-9, p. 10.
 Livermore - Similar policy: L-1, p. 92, 93-95.
 Pleasanton - Similar policy: P-1, p. 5, 8; P-2, p. 8, 9.)

¹This policy is in Part C, Unresolved Goals and Objectives.

Preserve Habitats of Rare or Endangered Species

To preserve and enhance areas which are habitats for rare and endangered animal or plant species.

(Alameda County - Similar policy: A-5, p. 1-77.
Livermore - Similar policy: L-1, p. 91.
Pleasanton - Similar policy: P-1, p. 5; P-2, p. 7.)

Ensure Mutually Compatible Land Uses

To ensure that land uses are mutually compatible in terms of sound levels, vibration, traffic safety, health, and aesthetics in order to derive the maximum benefit and enjoyment from each use.

(Alameda County - Similar policy: A-1, p. 28.
Livermore - No similar policy.
Pleasanton - Similar policy: P-1, p. 5.)

3. Control of Urbanization and Responsibility for Services¹

4. Air Quality

Goal: To improve and maintain air quality in the Planning Unit in order to protect and enhance the public health and the environment.

(Alameda County - Similar policy: A-2, p. 8; A-5, p. 1-78.
Livermore - Similar policy: L-1, p. 86-87.
Pleasanton - Similar policy: P-1, p. 5.)

Objectives: Guide Growth

To guide the rate, amount, and location of development to ensure that air quality is improved to and maintained at State standards.

(Alameda County - No similar policy.
Livermore - Similar policy: L-1, p. 83-84. 88.
Pleasanton - Similar policy: P-1, p. 4.)

Reduce Automobile Usage

To reduce automobile usage through increased employment which will reduce commuting to work, through transportation improvements, and through land use patterns.

(Alameda County - No similar policy.
Livermore - Similar policy: L-1, p. 88-89.
Pleasanton - No similar policy.)

¹Policies in this area are in Part C, Unresolved Goals and Objectives.

5. Water Quality

Goal: To ensure a continuing supply of high quality water for the Planning Unit.

(Alameda County - Similar policy: A-5, p. 1-77.
Livermore - Similar policy: L-1, p. 110.
Pleasanton - Similar policy: P-2, p. 8.)

Objectives: Guide Growth

To guide the type and amount of development to ensure that water demand does not exceed supply and that adequate yields can be substained.

(Alameda County - Similar policy: A-5, p. 1-77.
Livermore - Similar policy: L-1, p. 89, 110.
Pleasanton - Similar policy: P-2, p. 8.)

Promote Conservation of Water

To promote those types of construction and land use patterns which minimize water consumption.

(Alameda County - No similar policy.
Livermore - Similar policy: L-1, p. 88.
Pleasanton - No similar policy.)

Preserve Water Sources and Storage Areas

To preserve and protect groundwater recharge areas of highly permeable soils, groundwater basins, and watersheds of reservoirs from contamination, destructive activities, and incompatible land uses.

(Alameda County - Similar policy: A-5, p. 1-77.
Livermore - Similar policy: L-1, p. 87, 89, 110.
Pleasanton - Similar policy: P-2, p. 8.)

6. Environmental Hazards

Goal: To minimize the disruption, danger, and potential injury and loss of life and property caused by unstable soils, steep slopes, seismic activity, flooding, fire and noise by promoting land use and development compatible with the degree of hazard.

(Alameda County - Similar policy: A-3, p. 2-29; A-4, p. 3-34, 3-35; A-6, p. 4-16.
Livermore - No similar policy.
Pleasanton - Similar policy: P-2, p. 5, 6; P-4, p. 10.)

Objectives: Limit Development on Unstable Soils and Steep Slopes

To place limitations on development to be located on unstable soils and steep slopes which would aggravate existing hazards or which would create unnecessary risk to life and property.

(Alameda County - Similar policy: A-2, p. 9; A-4, p. 3-44.
Livermore - No similar policy.
Pleasanton - Similar policy: P-2, p. 6.)

Restrict Development in Areas Particularly Susceptible to Seismic Damage

To restrict development in areas known to be susceptible to the adverse effects of primary and secondary seismic hazards.

(Alameda County - Similar policy: A-3, p. 2-29.
Livermore - Similar policy: L-1, p. 95.
Pleasanton - Similar policy: P-2, p. 6.)

Restrict Development in Flood Prone Areas

To restrict development in flood-prone areas to those uses which will not significantly reduce the capacity of the floodway, have low flood-damage potential, and are particularly designed for potential flooding.

(Alameda County - Similar policy: A-4, p. 3-43.
Livermore - Similar policy: L-1, p. 96, 97.
Pleasanton - Similar policy: P-2, p. 6.)

Reduce the Risk of Fire Damage

To reduce the risk of fire damage through restriction of development in wildland areas of extreme fire hazard, and by requiring sufficient water supplies and fire protection service for all development.

(Alameda County - Similar policy: A-4, p. 3-34, 3-42.
Livermore - Similar policy: L-1, p. 97.
Pleasanton - Similar policy: P-2, p. 6-7.)

Protect People from Excessive Noise

To protect people from objectionable, intrusive, and injurious levels of noise, through the adoption of regulations to suppress and inhibit sources of noise, and through the compatible arrangement of land uses.

(Alameda County - Similar policy: A-6, p. 4-16, 4-17.
Livermore - No similar policy.
Pleasanton - Similar policy: P-4, p. 10, 11.)

7. Housing

Goal: To provide housing of good quality which varies sufficiently in design, type, location, and cost to meet the physical, economic and social needs of residents of the Planning Unit.

(Alameda County - Similar policy: A-8, p. 7.
Livermore - Similar policy: L-1, p. 106.
Pleasanton - Similar policy: P-1, p. 7; P-5, p. 2.)

Objectives: Maintain and Improve Housing Quality

To maintain and improve housing and quality through inspection, neighborhood programs, rehabilitation projects, a supportive tax structure, and financial assistance.

(Alameda County - Similar policy: A-8, p. 7-8.
Livermore - Similar policy: L-1, P. 107.
Pleasanton - No similar policy.)

Promote Low and Moderate Cost Housing

To promote low and moderate cost housing through allocation of scarce facilities and resources, such as sewage capacity, and through financial assistance.

(Alameda County - Similar policy: A-8, p. 7.
Livermore - Similar policy: L-1, p. 107-108.
Pleasanton - Similar policy: P-1, p. 7.)

Encourage a Choice of Housing Type

To encourage a choice of housing type by provision of multiple family housing.

(Alameda County - Similar policy: A-8, p. 7.
Livermore - Similar policy: L-1, p. 107.
Pleasanton - Similar policy: P-1, p. 7.)

Provide for Ethnic and Economic Integration

To provide for ethnic and economic integration of neighborhoods and communities through use of state and federal assistance programs, and by mixing the type and cost of housing in new subdivisions, planned unit developments, and apartment complexes.

(Alameda County - Similar policy: A-8, p. 8.
Livermore - Similar policy: L-1, p. 107-108.
Pleasanton - Similar policy: P-1, p. 7.)

Promote Balance or Residential and Business Development

To promote in each community a balance of residential and business development both to provide personal income and governmental revenues and to reduce energy, environmental, and transportation costs.

(Alameda County - Similar policy: A-8, p. 7.
Livermore - Similar policy: L-1, p. 83-84, 113.
Pleasanton - No similar policy.)

Locate Housing Convenient to Shopping and Employment

To locate housing convenient to places of employment and shopping by public transportation.

(Alameda County - Similar policy: A-8, p. 7.
Livermore - Similar policy: L-1, p. 109.
Pleasanton - No similar policy.)

Promote Conservation in Housing

To promote housing which conserves energy and resources, including fossil fuels, water and land through building code, subdivision, and zoning regulations.

(Alameda County - No similar policy.
Livermore - Similar policy: L-1, p. 88.
Pleasanton - No similar policy.)

8. Commercial, Industrial and General Economic Development

Goal: To create and maintain a balanced, stable economy which provides sufficient employment opportunities for residents of the Planning Unit, makes accessible a variety of goods and services, equitably distributes the costs of community services and facilities, and which protects and enhances the resources of the community.

(Alameda County - Similar policy: A-1, p. 26, 28.
Livermore - Similar policy: L-1, p. 85.
Pleasanton - Similar policy: P-1, p. 6.)

Objectives: Increase Employment and Decrease Commuting

To increase the ratio of employment to population and to minimize commuting through implementation of land use regulations; provision of community facilities, such as sewage treatment; and dissemination of information which promotes business and industrial development.

(Alameda County - Similar policy: A-1, p. 27.
Livermore - Similar policy: L-1, p. 86.
Pleasanton - Similar policy: P-1, p. 6.)

Strengthen the Local Tax Base

To strengthen the local tax base through implementation of land use regulations, provision of community facilities, and dissemination of information which promotes business and industrial development.

(Alameda County - Similar policy: A-1, p. 27.
Livermore - Similar policy: L-1, p. 86.
Pleasanton - Similar policy: P-1, p. 6.)

Guide Growth

To guide growth in the Planning Unit so that community services can be provided in an efficient and economic manner.

(Alameda County - Similar policy: A-1, p. 27.
Livermore - Similar policy: L-1, p. 83-85.
Pleasanton - Similar policy: P-1, p. 4.)

Locate Industry on Large Tracts

To locate industries on large tracts of land accessible to major highways, railroads, and/or air transportation in order to create an industrial community protected from incompatible uses.

(Alameda County - Similar policy: A-1, p. 30.
Livermore - Similar policy: L-1, p. 100.
Pleasanton - No similar policy.)

Promote Compact Business and Commercial Areas

To promote compact business and commercial areas and to discourage strip development through land use regulation and provision of capital improvements in order to minimize conflicts with surrounding land uses, to reduce traffic congestion and parking needs, and to promote public transportation.

(Alameda County - Similar policy: A-1, p. 29.
Livermore - Similar policy: L-1, p. 99-100.
Pleasanton - No similar policy.)

Promote Development of Central Areas

To promote the development and redevelopment of the existing central areas of the three valley communities as commercial and business centers through land controls which limit the extent of commercial and business development in other areas, through district projects and programs, and through supportive capital improvements.

(Alameda County - No similar policy.
Livermore - Similar policy: L-1, p. 85, 88.
Pleasanton - Similar policy: P-1, p. 6.)

Regional Shopping Center¹

9. Transportation

Goal: To provide safe, efficient, and environmentally compatible systems for the movement of goods and people which allow all residents to participate in and enjoy the benefits of community life and which support the economy of the Planning Unit.

(Alameda County - No similar goal.
Livermore - Similar goal: L-1, p. 103.
Pleasanton - No similar goal.)

General

Objectives: Reduce the Need for Routine Travel

To reduce the amount of routine travel, such as to shopping and work, through planned patterns of land use.

(Alameda County - Similar policy: A-1, p. 27; A-8 p. 7.
Livermore - Similar policy: L-1, p. 89.
Pleasanton - No similar policy.)

Provide and Maintain Scenic Routes

To provide and maintain scenic routes which are of particular aesthetic value for automobile, public transit, bicycle, and/or pedestrian use.

(Alameda County - Similar policy: A-2, p. 11; A-9, p. 11.
Livermore - Similar policy: L-1, p. 94.
Pleasanton - Similar policy: P-1, p. 9.)

Conserve Energy and Resources

To promote and give priority to those transportation systems which minimize usage of energy and resources, including land and valuable minerals.

(Alameda County - No similar policy.
Livermore - Similar policy: L-1, p. 103.
Pleasanton - No similar policy.)

¹This policy is in Part C, Unresolved Goals and Objectives.

Reduce Pollution

To promote and give priority to those transportation systems which minimize pollution, particularly air pollution.

(Alameda County - No similar policy.
Livermore - Similar policy: L-1, p. 103.
Pleasanton - No similar policy.)

Compatible with Surrounding Uses

To locate transportation systems where they are compatible, in terms of safety, visual appearance, levels of sound and vibration, with surrounding land uses.

(Alameda County - Similar policy: A-1, p. 27.
Livermore - Similar policy: L-1, p. 103.
Pleasanton - No similar policy.)

Specific

Objectives: Reduce Automobile Usage

To reduce dependency on the automobile through promotion and development of other transportation systems, such as bicycles and public transit, and through land use patterns.

(Alameda County - No similar policy.¹
Livermore - Similar policy: L-1, p. 103, 105.
Pleasanton - No similar policy.)

Improve Safety and Reduce Congestion

To improve the safety of and reduce the congestion on roadways through capital improvements and promotion of alternative means of transportation.

(Alameda County - Similar policy: A-1, p. 31.
Livermore - Similar policy: L-1, p. 103.
Pleasanton - Similar policy: P-1, p. 8.)

Develop and Maintain a Bikeway System

To develop and maintain a safe, direct, and convenient system of bikeways which is integrated with other modes of transportation and has adequate locking and parking facilities.

(Alameda County - No similar policy.²
Livermore - Similar policy: L-1, p. 105-106.
Pleasanton - Similar policy: P-1, p. 8.)

¹Castro Valley Plan has similar policy.

²Alameda County Preliminary Bikeways trail has similar policy.

Maintain and Improve Rail Transportation

Maintain and improve a system of railroads which minimizes conflicts with nearby land uses.

(Alameda County - No similar policy.
Livermore - Similar policy: L-1, p. 104-105.
Pleasanton - No similar policy.)

Develop and Maintain Public Transportation

To develop and maintain public transit systems which offer an alternative to automobile travel and which can serve the needs of the handicapped, young, and elderly as well as commuters and shoppers.

(Alameda County - Similar policy: A-1, p. 26, 32.
Livermore - Similar policy: L-1, p. 89.
Pleasanton - Similar policy: P-1, p. 9.)
Airport Development¹

10. Agriculture

Goal: To preserve agriculture and to protect and preserve prime agricultural land, an irreplaceable natural resource.

(Alameda County - Similar policy: A-5, p. 1-78.
Livermore - Similar policy: L-1, p. 90.
Pleasanton - Similar policy: P-1, p. 5.)

Objectives: Guide Development to Preserve Agricultural Lands

To guide urban development toward less productive lands, preserving for agricultural use those remaining un-urbanized Class I and Class II soils, soils which are capable of growing valuable crops (such as grapes), and as much land which can support the grazing of animals as possible.

(Alameda County - Similar policy: A-5, p. 1-78.
Livermore - Similar policy: L-1, p. 90.
Pleasanton - Similar policy: P-2, p. 9.)

Conserve Soil Resources in Agricultural Areas

To conserve soil resources through the promotion of sound land management practices in agricultural areas in order to maintain and enhance productivity.

(Alameda County - Similar policy: A-5, p. 1-78.
Livermore - No similar policy.
Pleasanton - No similar policy.)

¹This policy is in Part C, Unresolved Goals and Objectives.

Promote Programs Which Make Continued Agricultural Use
of Land More Feasible

To promote and encourage the use of programs, such as the Williamson Act, which make it more economically feasible for land to continue in agricultural use.

(Alameda County - No similar policy.
Livermore - Similar policy: L-1, p. 90.
Pleasanton - No similar policy.)

11. Mineral Extraction

Goal: To ensure the extraction of needed mineral resources, consistent with conservation and recycling of materials, as a temporary use of the land not detrimental to other resources or surrounding land uses.

(Alameda County - Similar policy: A-5, p. 1-78.
Livermore - No similar policy.
Pleasanton - No similar policy.)

Objectives: Provide Access to Mineral Resources

To provide access to minerals through identification of the resource.

(Alameda County - Similar policy: A-5, p. 1-78.
Livermore - No similar policy.
Pleasanton - No similar policy.)

Require Reclamation Plans

To require plans for and commitment to rehabilitation and reuse of mineral extraction areas before new areas are mined.

(Alameda County - Similar policy: A-1, p. 30; A-2, p. 10-11.
Livermore - Similar policy: L-1, p. 87.
Pleasanton - Similar policy: P-2, p. 7.)

Protect Groundwater

To protect groundwater from short and long range deterioration or depletion as a result of mineral extraction.

(Alameda County - Similar policy: A-5, p. 1-78.
Livermore - Similar policy: L-1, p. 87.
Pleasanton - No similar policy.)

Compatible With Surrounding Areas

Mineral extraction and related activities, such as transport of materials, should not adversely effect surrounding areas in terms of sound levels, air quality, traffic and aesthetics.

(Alameda County - Similar policy: A-1, p. 30.
Livermore - Similar policy: L-1, p.87.
Pleasanton - No similar policy.)

12. Recreational, Historic and Scenic Resources

Goal: To preserve areas and features in the Planning Unit having recreational, historic, or scenic qualities and potentials for the appreciation and enjoyment of present and future generations.

(Alameda County - Similar policy: A-2, p. 9; A-7, p. 9; A-9, p. 10.
Livermore - Similar policy: L-1, p. 92, 92, 94, 95.
Pleasanton - Similar policy: P-1, p. 8; P-2, p.8.)

Objectives: Provide a System of Parks

To provide a system of parks for the preservation of historical buildings and unusual physical features, the promotion of health and well-being through the constructive use of leisure time, and the conservation of natural resources.

(Alameda County - Similar policy: A-7, p. 9.
Livermore - No similar policy.
Pleasanton - Similar policy: P-2, p. 8, 9.)

Restrict Alteration of Streambeds and Bodies of Water

To restrict the alteration of all streambeds, bodies of water, and adjacent vegetation in order to preserve their scenic and wildlife qualities.

(Alameda County - Similar policy: A-9, p. 15.
Livermore - No similar policy.
Pleasanton - Similar policy: P-1, p. 5.)

Leave Natural Ridgeland Open

To leave natural ridgeland permanently open to preserve their scenic value.

(Alameda County - Similar policy: A-2, p. 9.
Livermore - Similar policy: L-1, p. 93.
Pleasanton - No similar policy.)

Restrict Development in Hill Areas

To restrict development in hill areas to non-intensive development which is located, sited, and designed to fit and be subordinate to the natural land forms.

(Alameda County - Similar policy: A-9, p. 15.
Livermore - Similar policy: L-1, p. 93.
Pleasanton - No similar policy.)

Preserve Trees

To preserve healthy, mature trees or those of particular cultural significance in order to preserve the scenic quality of the Planning Unit.

(Alameda County - Similar policy: A-9, p. 15.
Livermore - Similar policy: L-1, p. 92, 95.
Pleasanton - Similar policy: P-1, p. 8.)

Protect and Enhance Public Views

To protect and enhance public views within and from established scenic corridors through regulation of building location and design, landscaping and removal or screening of unsightly uses.

(Alameda County - Similar policy: A-9, p. 13.
Livermore - Similar policy: L-1, p. 94.
Pleasanton - No similar policy.)

Review Location and Design of Signs and Utility Lines

To review, and where possible, regulate the location and design of outdoor advertising, utility and communication towers, poles and wires, both in developed and undeveloped areas so that they will not detract from scenic views.

(Alameda County - Similar policy: A-9, p. 15.
Livermore - Similar policy: L-1, p. 94-95.
Pleasanton - No similar policy.)

Encourage Preservation of Places of Historical Significance

To encourage, and when possible, require the preservation of places, structures, and works of man with cultural, archaeological, or historical significance.

(Alameda County - No similar policy.
Livermore - Similar policy: L-1, p. 92.
Pleasanton - Similar policy: P-1, p. 8.)

13. Educational, Cultural, and Governmental Facilities

Goal: To encourage the provision of educational and cultural facilities for the enrichment of residents and for public life at the neighborhood, community and county levels.

(Alameda County - Similar policy: A-1, p. 27.
Livermore - No similar policy.
Pleasanton - No similar policy.)

Objectives: Encourage the Provision of Schools

To encourage the provision of schools which help to assure quality education, have adequate classroom space, and safe access.

(Alameda County - No similar policy.
Livermore - Similar policy: L-1, p. 111.
Pleasanton - No similar policy.)

Promote a Community College

To promote a community college in the Planning Unit to serve the varied educational needs of residents.

(Alameda County - Similar policy: A-1, p. 27.
Livermore - No similar policy.
Pleasanton - No similar policy.)

Promote a System of Libraries

To promote a system of libraries to serve the residents of the Planning Unit.

(Alameda County - No similar policy.
Livermore - Similar policy: L-1, p. 116.
Pleasanton - No similar policy.)

C. Unresolved Goals and Objectives

1. Development Pattern - Rural Residential Development

Alameda County - "Provide for Various Types of Living Environments:

Various types of environments for living should be recognized and provided by planning for different types of urban and rural communities, each with a distinct character and identity. Environments should range from the large city serving as a metropolitan core to completely rural grazing lands. Between, cities, permanently defined by topographic features, parks, farm land, or other forms of relatively open land should be planned with populations ranging in size from 50,000 upward." (A-1, p. 27.)

"Provide Areas for Residential-Recreational Use:

Limited portions of lands designated for major park and recreation area use and for uncultivated and undeveloped use should be made available for private development of very low density residential-recreational use for weekend, vacation and retirement homes and for resort-type development, providing that adequate design controls are enforced to assure development that will harmonize with and enhance natural topographic features. Also, providing health and sanitation controls are observed." (A-1, p. 31.)

See Board Resolution 148744, dated May 31, 1973, "Rural Residential Development Policy," beginning on the next page.

Livermore - No policy.

Pleasanton - No policy.

Proposed
Objective:

Limit Residential Development in Rural Areas

To limit both the amount and extent of residential development in rural areas and outside municipal or community service areas in order to 1) minimize potential adverse effects of private sewage treatment and disposal systems on local groundwater resources, 2) preserve large tracts of agricultural land, and 3) efficiently provide public services.

(Based on Alameda County's Rural Residential Development Policy and existing General Plan policies concerning agriculture (A-5, p. 1-78) and provision of services (A-1, p. 27).)

2. Control of Urbanization and Responsibility for Services

Alameda County - No policy.

Livermore - "To strengthen the economic base and to avoid the duplication of cost in delivery of urban services, the City shall unconditionally support the fundamental principle of sound urban management that 'What is urban should be municipal'. Therefore, all future urbanization within the Planning Area shall be within the minicipal control of the City of Livermore." (L-1, p. 85-86)

"It is the goal of the City to provide urban services through a phased program, ensuring the orderly implementation of policies and proposals of the General Plan, including the annexation of areas to be served and provisions for meeting the cost of such services." (L-1, p. 110)

"It is the goal of the City that expansion, maintenance and operation of central sewer and water systems serving all urban development within the Planning Area shall be under the jursidiction of the City of Livermore." (L-1, p.110)

MAY 31, 1973

Approved as to Form
HARD J. MOORE, County Counsel

REEL.....IMAGE.....

By.....Deputy

THE BOARD OF SUPERVISORS OF THE COUNTY OF ALAMEDA, STATE OF CALIFORNIA

On motion of Supervisor.....Cooper..... Seconded by ~~SCOTT~~.....Chairman Bort.....
and approved by the following vote,
Ayes: Supervisors.....Kates, Cooper and Chairman Bort.....-3
Noes: Supervisors.....Murphy.....-1
Excused ~~KEATING~~ Supervisors.....Hannon.....-1

THE FOLLOWING RESOLUTION WAS ADOPTED:

NUMBER 148744

ADOPT "RURAL RESIDENTIAL DEVELOPMENT POLICY"

WHEREAS, this Board of Supervisors did direct the County Planning Commission to investigate selected rural locations to determine their suitability for R-1-L-B-E zoning and uses; and to draft guidelines to be used in the evaluation of the appropriateness of specific locations for R-1-L-B-E zoning to be known as "Rural Residential Development Policy;" and

WHEREAS, said Planning Commission did hold public hearings on a proposed policy on October 17, 1972, November 6, 1972, December 11, 1972 and January 22, 1973, during which hearings testimony and comments were received from individuals and representatives of public and private jurisdictions, businesses, organizations and departments; and

WHEREAS, said County Planning Commission did adopt a "Rural Residential Development Policy" and recommended its adoption by this Board of Supervisors; and

WHEREAS, this Board of Supervisors did hold public hearings to consider the adoption of said proposed policy, notice of which was duly given; and

WHEREAS, after hearing all those who wished to be heard in connection with said matter, it satisfactorily appears to this Board of Supervisors that the public interest, necessity, convenience and general welfare will be best served by the adoption of a "Rural Residential Development Policy;"

NOW, THEREFORE, BE IT RESOLVED that this Board of Supervisors does and it hereby adopts the following "Rural Residential Development Policy:"

RURAL RESIDENTIAL DEVELOPMENT POLICY

POLICY FOR THE LOCATION, ZONING AND SERVICING OF RURAL RESIDENTIAL USES

1. Rural Residential Defined: Rural-residential uses for the purposes of this policy consist of significant concentrations (normally five or more) of single family dwellings on lots ranging from one to one-hundred acres in area. Agriculture is a component of rural-residential use but confined to an accessory role to the primary, residential use. This policy does not apply to residential uses at densities of one dwelling per one-hundred or more acres.

2. Consistency with General Plan: Rural residential uses should be limited to those areas shown on the County General Plan for "Suburban Residential" uses. Determination to locate concentrations of rural-residential uses outside those areas now indicated for such uses on the General Plan should be made through the General Plan amendment process. New rural-residential areas, within proposed urban uses areas but detached from existing urban centers should be created only upon demonstration of a distinct public need which cannot be fulfilled by provision of residential units within existing urban concentrations.
3. Zoning District: The existing R-1 (Single Family Residence) District, used in conjunction with B (Combining Site Area) District to achieve an appropriate minimum site area, and the L (Combining Agricultural Use) District where limited agricultural use is felt desirable, provides a flexible tool to use in those instances where rural-residential uses are to be encouraged.
4. Residential Facilities and Services: Extensive area analysis encompassing all factors affecting the ultimate extent and location of development should occur prior to any reclassification within a specific area. The total number of residences to be allowed in a given area must be determined, the water and sewage disposal needs of that population and the need for extending other public services such as schools, police, and fire protection. Such analysis should be predicated upon the ultimate maximum potential density in a given area even though the initial parcel splits may result in properties as large as 10 to 40 acres.

A comprehensive environmental impact report will precede any extensive consideration of a specific area for rezoning to allow rural-residential use. The presence of unavoidable significant adverse impacts will be grounds for termination of consideration for rural-residential use for that locality. Minor adverse impact problems will be considered during the rezoning process and appropriate actions taken to minimize such impacts.

Rural-residential concentrations should be located where major access can be provided by existing county roads that are adequate in design to accommodate resulting traffic increases. Within the area to be developed rural-residential streets shall be designed and improved to accommodate projected access and traffic needs. Streets not to be made a part of the County Road System shall have alternate means of guaranteeing maintenance.

Specific provisions (including establishment of special services district where necessary) shall be made at the time areas are zoned for rural-residential uses for the timely installation of improvements, utilities, facilities and services that are necessary to serve the future residents. Costs of providing for these needs should be borne by the land owners in the development area and not the public at large.

5. Potable Water Supply: An adequate, healthful water supply is essential to human habitation. Creation of a rural residential area shall be preceded by the assurance of availability of a private or public water supply adequate in quality and quantity to satisfy at all times the demands of the ultimate potential number of residences.
6. Sewage Disposal Facilities: Ability to provide adequate sewage disposal facilities will be a prime factor in determining rural-residential location. Concentration of septic tanks leach field systems in the Livermore-Amador Valley drainage basin and areas with similar ground water characteristics or soil problems is precluded. Any rural-residential development must be in conformance with the following requirements of the Regional Water Quality Control Board.
 - (1) Requirements under the Interim Water Quality Management Plan, San Francisco Bay Basin:
 - a. No discharge of wastewater or reclaimed wastewater of any other controllable factor shall degrade any groundwater.
 - b. Discharge of sewage bearing wastes to non-tidal waters is prohibited.

(2) Under Regional Water Quality Control Board Resolution NO. 768 County Government is required:

- a. To prohibit the use of septic tanks and leaching systems for subdivisions (except where determined to be in the best public interest and not adverse to beneficial uses of State waters) and for any other area where minimum lot sizes and dwelling densities meeting the approval of the County Health Officer have not been established by ordinance.

- b. To prevent developments using community sewage disposal systems that are not planned and maintained by a governmental entity, nor consistent with a master plan for sewerage including the development.

7. Rural-residential uses will not be allowed in areas established as Agricultural Preserves.

8. Existing Rural-residential areas: Existing areas of rural-residential use in conflict with this policy may be zoned or remain zoned for rural residential uses only to the extent that such zoning would not allow the creation of additional building sites. All existing legal building sites, whether developed or undeveloped, are not affected by this policy.

I CERTIFY THAT THE FOREGOING IS A COR-
RECT COPY OF A RESOLUTION ADOPTED BY
THE BOARD OF SUPERVISORS ALAMEDA
COUNTY, CALIFORNIA
MAY 9 1973
ATTEST:

JACK K. FOOL, CLERK OF
THE BOARD OF SUPERVISORS

BY: *[Signature]*

RECEIVED
JUN 18 1973
ALAMEDA COUNTY
PLANNING DEPARTMENT

kes/

Pleasanton - "It is the policy of the City of Pleasanton to prioritize all areas slated for annexation based upon logical expansion of the city limits as part of a growth management program." (P-1, p. 4)

"It is the policy of the City of Pleasanton to require annexation to the City as a prerequisite of utility extension." (P-1, p. 4)

"It is the policy of the City of Pleasanton that all urbanization with Pleasanton's sphere of influence (as determined by the Alameda County Local Agency Formation Commission) be municipal and under the control of the City of Pleasanton." (P-1, p. 5) See Figure II-3 for a map of Pleasanton's sphere of influence.

Proposed

Goal:

To encourage the provision of a governmental structure which promotes orderly and planned growth, the efficient provision of services, and is responsive to the needs of residents of the Planning Unit.

Proposed

Objectives:

Urban Development in Incorporated Areas

All urban development shall be within incorporated areas in order to promote the coordination of land use planning and provision of public services.

(Based on Alameda County LAFC policy contained in Spheres of Influence: Policies, Guidelines, Criteria and Procedures.)

Discourage Establishment of Special Districts

To discourage the establishment of special districts that provide public services to urban development and do not have the authority to plan land use in order to discourage sprawl, fragmented development, and fragmented governmental control of services and planning.

(Based on Alameda County LAFC policies contained in Spheres of Influence: Policies, Guidelines, Criteria and Procedures.)

3. Commercial, Industrial and General Economic Development - Regional Shopping Center

Alameda County - "Disperse Business, Commerce and Industry:

Future development of business, commercial, and industrial land uses should be dispersed to distribute tax resources equitably among communities, to provide local employment opportunities and to reduce the need for commuting to work and the resulting heavy traffic volumes." (A-1, p. 27)

"Develop Compact Business and Commercial Areas, Convenient to Major Transportation Routes:

Central business districts and other businesses and commercial areas, no matter how large the territory served, should be compact, grouped and consolidated into functional units providing sufficient off-street parking and loading facilities, pedestrian and vehicle safety, and elimination of traffic congestion.

General shopping areas should be designed to encourage one-stop shopping for daily needs. General shopping areas should not be developed in strips along major streets and highways where substantial on-street parking tends to create traffic congestion and scattered development that is uneconomic to proprietors and inconvenient to patrons. Such strips should be eliminated through conversion to relatively low traffic producing commercial and other uses of land, with sufficient off-street parking. New general shopping areas should be convenient too, but not directly along, major transportation routes. To help achieve these objectives, planned shopping centers should be encouraged.

Signs and outdoor advertising should be regulated, like other uses of land and structures, to prevent danger to highway users and blight." (A-1, p. 29-30)

Livermore - No policy.

Pleasanton - "It is the policy of the City of Pleasanton to encourage the establishment of a regional shopping center immediately southwest of the intersection of Freeways I-580 and I-680." (P-1, p. 6)

Proposed
Objective:

Encourage Commercial Development Which Equitably Distributes Benefits and Minimizes Trips

To encourage a type and geographic distribution of commercial facilities which equitably distributes the benefits (such as tax revenues) of such development among the communities of the Planning Unit and minimizes trips and trip miles. To begin to meet this objective, a regional shopping center should be centrally, not peripherally, located in relation to existing and planned population.

4. Transportation - Airport Development

Alameda County - No policy.¹

Livermore - "The City may expand the Municipal Airport in accordance with the Airport Master Plan to meet aviation needs. The City shall investigate its potential as a

¹The Alameda County Airport Land Use Commission is presently developing county-wide policies regarding airport development.

regional air transit facility. Expansion shall be consistent with ERME policies and further, residential encroachment shall be prohibited." (L-1, p. 106)

"To protect the Municipal Airport from encroachment by incompatible uses the City shall encourage development of property within the immediate vicinity of the airport for light industrial and transportation uses to the extent that noise standards and flight clearance requirements are maintained, and environmental impacts are adequately mitigated." (L-1, p. 101)

"To assure the most positive control over development within the off-airport flight approach areas, the City shall pursue the feasibility of acquiring urban development rights or fee title to property within these approach areas." (L-1, p. 102)

Pleasanton - No policy.

Proposed
Objective:

Recognize the Livermore Airport as a General Aviation Facility

To recognize the Livermore Airport as a general aviation facility and support its expansion to handle increase operations which does not adversely effect surrounding areas in terms of safety, noise, traffic, and air quality.

E. Plan Proposals

Four plan proposals for the Livermore-Amador Valley Planning Unit are to be considered. These include the adopted General Plan and three alternative proposals.¹

1. General Plan

The Countywide General Plan was adopted by the Alameda County Board of Supervisors in May 1966 as a comprehensive amendment to the 1957 Alameda County Master Plan. The current Plan includes policies and proposals of the Plan Elements, including Land Use, Circulation, Open Space, Scenic Route, Conservation, Seismic Safety, Safety, Noise, and Housing. Because all land but Land Use, Circulation, Scenic Route, and Park and Recreation Elements of the Plan were adopted after 1966, the current proposals of the General Plan do not fully reflect revised and broadened County development policies, except where amendments to the Elements were adopted between 1966 and 1976.

Since adoption in 1966, Plan land use and circulation proposals for the Livermore-Amador Valley Planning Unit have been changed by four Plan amendments. The effect of these amendments on residential and industrial land use, housing supply, and population holding capacity is reflected in the following tables and figures.

The most recent amendment for the North Livermore Area provides for development of a new urban center in a 4,275 acre area north of the City of Livermore. The proposed residential area is designed to provide about 15,000 housing units, with capacity for a population of approximately 40,000. The amendment increases General Plan housing supply in the Planning Unit to about 87,500 units. The net increase, of 12,500 units reflects the fact that some limited residential development was previously planned for the subject area.

Population holding capacity is similarly increased, from a range of 200,000 to 250,000 under pre-amendment proposals, to a range of 227,600 to 294,000. The low estimates assume that average household size in the Valley will decline to approximately 2.6 in 1990. The high estimates assume that household size remain constant, at 1975 levels, through the Plan period.

County Planning Commission Resolution No. 11007 in recommending adoption of the North Livermore Area Amendment also recommends Supervisors:

"that the General Plan and planned elements be amended in the subject area to permit the petitioned development as proposed while retaining the present planned holding capacity of the Valley through the redesignation of alternate areas of possible development which would be equivalent to the area to be occupied by the petitioned development at its proposed density."

Board Resolution No. 157830 similarly provided that

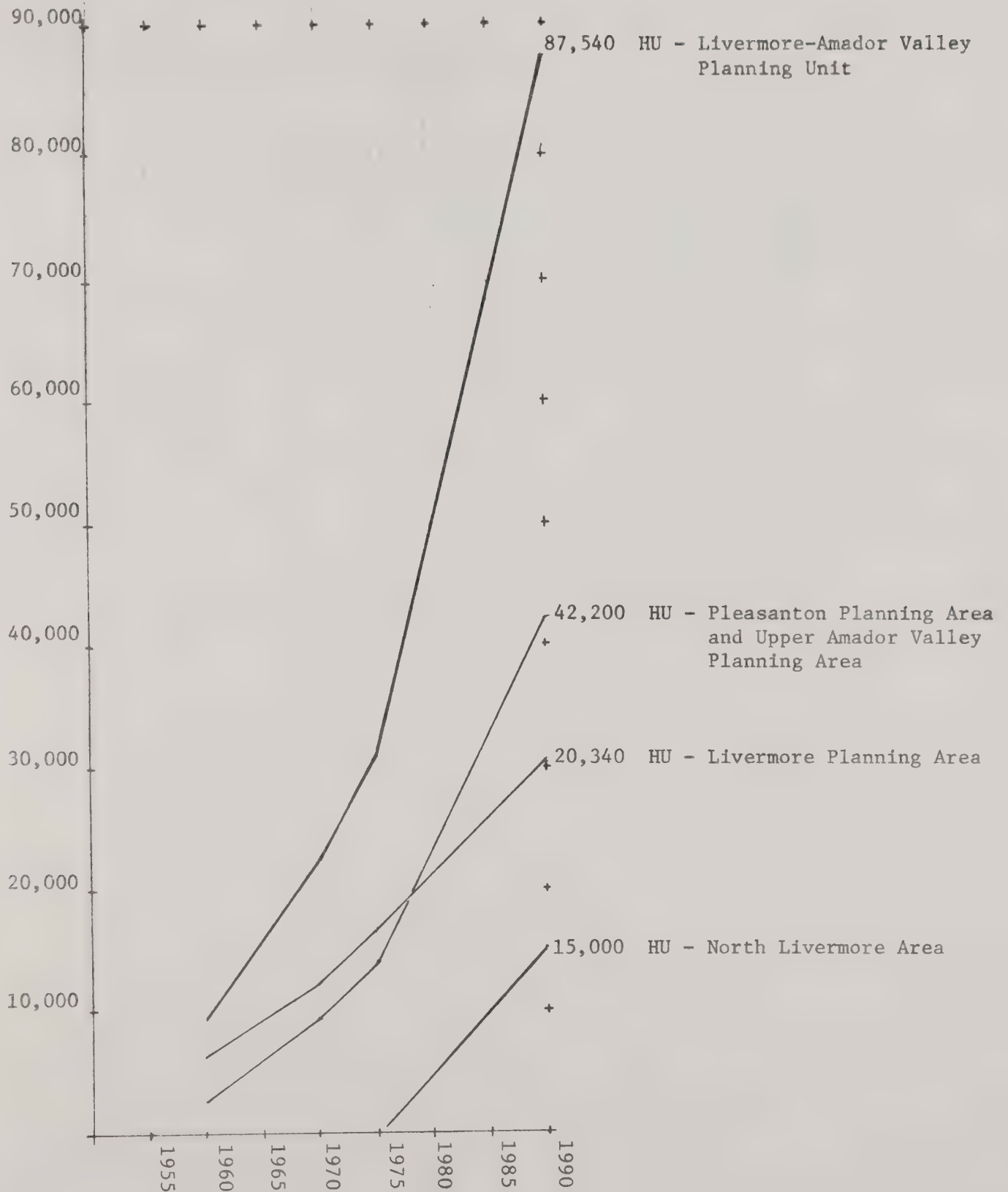
"Implementation of the plan should be made in such a way as to absorb other growth capacity in the Livermore-Amador Valley which otherwise would occur on an unscheduled and inadequately planned basis."

¹These are described on Page 1-2 and 1-3.

One of the objectives of the current Plan Review program for the Livermore-Amador Valley Planning Unit is the identification of alternate areas in the Valley where reductions in holding capacity might be made. The process involves review of existing and projected environmental, social, demographic, economic and policy conditions which influence growth in the Livermore-Amador Valley, the County and the region. It has become evident that reductions in holding capacity throughout the Valley are clearly required by post-1966 changes in local, regional, state and federal policies. The cumulative effect of these policies is reflected in substantial reductions in population holding capacity provided by City Plan proposals.

Figure II-1
Adopted General Plan

EXISTING AND PROJECTED HOUSING SUPPLY



HU = Housing Units

Table II 1-1
Adopted General Plan

PROPOSED RESIDENTIAL AND INDUSTRIAL LAND USE - 1990

	Gross Acres ¹					
	Residential					Industrial Total
	Total	Suburban	Low	Low Medium	High Medium	
Livermore-Amador Valley Planning Unit	27,530	12,470	13,260	800	1,000	10,090
Livermore Planning Area	9,770	3,430	6,080	260	0	3,260
Pleasanton Planning Area and Upper Amador Valley Planning Area	14,550	7,990	5,940	0	620	6,540
North Livermore Area	3,210	1,050	1,240	540	380	290
Other	0	-	-	-	-	-

¹Includes primary use plus adjoining local streets and local commercial and public facilities.

Table II 1-2
Adopted General Plan

EXISTING 1975 AND PROJECTED 1990 HOUSING SUPPLY

	Housing Units	
	Existing 1975 Estimate	Projected 1990
Livermore-Amador Valley Planning Unit	30,772	87,540
Livermore Planning Area	16,248	30,340
Pleasanton Planning Area and Upper Amador Valley Planning Area	13,840	42,200
North Livermore Area	-	15,000
Other	684	0

Table VI 1-3

Amador County Plan

EXISTING POPULATION AND PROJECTED 1990 PLAN POPULATION HOLDING CAPACITY

	Existing Population		Projected Population Holding Capacity					
	1970 Census	1975 Estimate	"B" Series Average Household Size			Constant Household Size 1975-1990		
			Housing Units	Average Household Size	Population Holding Capacity	Housing Units	Average Household Size 1/	Population Holding Capacity
Livermore-Amador Valley Planning Unit	77,655	106,400	87,540	2.6	227,600	87,540		294,290
Livermore Planning Area	39,589	53,200	30,340	2.6	78,880	30,340	3.2	97,090
Pleasanton Planning Area and Upper Amador Valley Planning Area	15,040	15,900	42,200	2.6	109,720	42,200	3.5	147,700
North Livermore Area	n/a	n/a	15,000	2.6	39,000	15,000	3.3	49,500
Other	2,976	3,150	-	-	-	-	-	-

1/ Based on January, 1975 estimated household size.

2. Alternate Plan Proposals

Selection of plan alternates must consider the potential for variation in a number of complex factors. The program of plan amendment consideration and the requirements of the environmental impact review process require, however, that plan alternates be limited to a relatively few, but measurably different options.

This report considers the existing adopted General Plan (1) and presents three possible alternates (2a, 2b, 2c) to the General Plan Policies and land use plan for the Livermore-Amador Valley Planning Unit. The alternates represent probable general patterns of land use that would arise under alternate sets of policy assumptions regarding overall amounts and general distribution of growth capacity in the Planning Unit. Ultimate holding capacity, therefore, is considered to be the key variable in the alternates, since the population level generally has the most significant effects on the social, economic, and physical qualities of the environment. The rate of growth is recognized as a critical factor; it is, perhaps, more significant than projected growth levels in evaluating the impacts of proposed growth. However, while the potential influences of state, regional and local policies on growth rates are identified, the plan alternates do not select an annual rate of growth.

The following description of alternate plan proposals is organized into three major sections. The first identifies qualities or characteristics which are common to all proposals (or to at least two of the three). The second section presents data for major components of the alternate proposals - projected quantities of commercial, industrial and residential land use; existing and projected housing supply; and projected population holding capacity. The third section identifies the more critical determinants of plan proposals, including those effecting overall levels of growth capacity, distribution of capacity, and rate of increase in growth capacity.

1. General Characteristics

a. Plan Period

All alternate proposals are for a 20 year plan period - extending from 1975 to 1995. The alternates do not include the post-1995 proposals of the Cities. However, areas proposed by the cities, for post-1995 development are sketched and noted on the alternate diagrams.

b. Degree of Specificity

The plan diagrams are outlines of major areas of land use, and therefore do not include city and county proposals for specific local facilities such as neighborhood shopping areas, public schools, and neighborhood parks. The diagrams show residential areas of varying density ranges and indicate business and commercial areas. The diagrams show proposed industrial areas without distinguishing between light and heavy industry.

c. Land Use Proposals

Under Alternates 2a and 2c plan proposals for incorporated areas are derived from adopted plans of the City of Livermore and City of Pleasanton. The County alternates do not show City residential proposals for post 1995 development. Proposals for the Upper Amador Valley Planning Unit are based on existing land use and zoning, and on adopted long-range plans for the area. In alternate 2a and 2b the North Livermore Area plan is that adopted by the Board of Supervisors as an amendment to the Alameda County General Plan.

1) Rural Residential

Rural Residential areas correspond to existing concentrations of single family dwellings on large lots of a minimum of one acre in areas outside of sewage service areas. The number of housing units assumed for these areas corresponds to that permitted by adopted zoning regulations and by the County's Rural Residential Development Policy.

2) Urban Residential Areas

Density and housing unit assumptions for the City planning areas are based on Alameda County Planning Department staff analysis of existing development, current zoning, and City development proposals. County estimates of residential densities and of projected housing supply may not agree with city estimates due to differences in methodologies. Urban residential areas range from 0.9 units to 20.9 units per gross acre.

3) Commercial Areas

Proposals indicate major commercial areas and the central business districts. Smaller commercial sites are not shown.

4) Industrial Areas

The alternates do not significantly reduce adopted General Plan proposals for industrial land use. The majority of sites are currently zoned for industrial use. A number of sites are shown for alternate Industrial or Agricultural use.

5) Open Areas

The general category includes areas providing one or more open space functions, including preservation of natural resources, managed production of resources, outdoor recreation, and public health and safety. Four categories of open areas are shown on the plan alternates: sand and gravel quarry, major parks, agriculture-cultivated, and agriculture-uncultivated.

d. Housing and Population Holding Capacity

Two critical variables affect population holding capacity. The first, a housing supply, is directly affected by policies of local agencies. The second, size of households, cannot be directly controlled by local agencies but, nevertheless, has a significant effect on holding capacity. Two estimates of projected holding capacity are prepared for each alternate in order to suggest the possible effects of change in housing supply (number and type) and change in the size of households (strictly, the number of persons per housing unit).

The low projection of each alternate is based on the Alameda County Planning Department "B" series population projections. The estimate assumes that, by 1995, the average household size in the Valley will be 2.6 persons.

The high projection for each alternate reflects a change in the housing supply (a proportional increase in the number of multi-family housing units) but assumes no change, through the plan period, in the average number of persons per household in a single family and multi-family housing units. Assumptions for the Planning Unit and Planning Areas are as follows:

	Average Persons per Household	
	Single Family	Multi-Family
Livermore-Amador Valley P.U.	3.5	2.0
Livermore Planning Area	3.4	2.0
Pleasanton Planning Area	3.6	2.0
Upper Amador Valley Planning Area	3.8	1.7
North Livermore Planning Area ¹	3.5	2.0

¹Assumed equivalent to Planning Unit average.

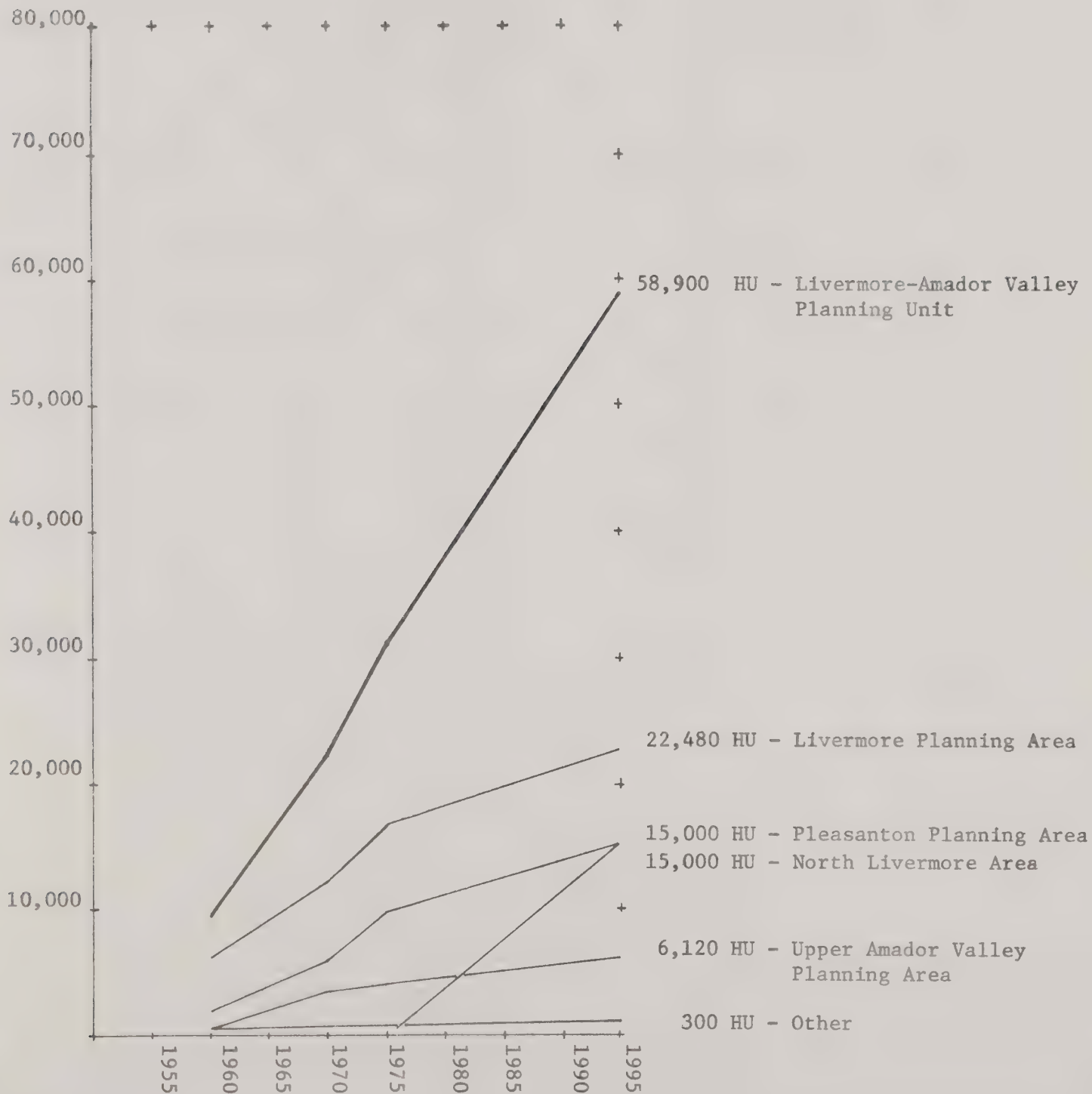
2. Alternate Plan Proposals

- a. Alternate 2a provides for adjustment to County General Plan proposals to include city adopted changes in Pleasanton and Livermore General Plans, and to reflect changes in land use and development policies in the Dublin Area (Upper Amador Valley Planning Area). The alternate also provides for adjustment to Plan residential proposals to insure consistency with County Rural Residential Development Policy. Alternate 2a retains the County's adopted plan proposal for a new urban center in the North Livermore Area.

Alternate 2a provides for approximately 58,900 housing units, including 57,950 in urban residential areas, and 950 in rural residential areas. The range of plan population holding capacity is 153,140 to 183,020.

Figure II 2-a-1
Plan Alternate 2a

EXISTING AND PROJECTED HOUSING SUPPLY



HU = Housing Units

Table II 2-a-1
 Plan Alternate 2a
 PROPOSED RESIDENTIAL, COMMERCIAL AND INDUSTRIAL LAND USE

	Residential ¹			Commercial ²	Industrial ³
	Total	Urban ⁴	Rural		
Livermore-Amador Valley Planning Unit	15,010	12,210	2,800	2,840	7,450
Livermore Planning Area	6,200	5,070	1,130	1,670	4,350
Pleasanton Planning Area	4,020	3,000	1,020	720	2,550
Upper Amador Valley Planning Area	1,430	1,430	-	360	260
North Livermore Area	2,700	2,700	-	90	290
Other	660	10	650	-	-

¹Includes residential lots and adjoining streets.

²Includes major and local commercial.

³Does not include: 1) 'Industrial or Agricultural'; 2) General Electric Vallecitos nuclear research facility.

⁴Suburban, Low, Low Medium and High Medium Densities.

Table II 2-a-2
Plan Alternate 2a

EXISTING AND PROJECTED HOUSING SUPPLY

	Housing Units						
	Existing - 1975 Estimate			Projected - 1995 Plan Alternate			
	Total	Single Family	Multi- Family	Total	Single Family		Multi- Family
					Urban	Rural	
Livermore-Amador Valley Planning Unit	30,772	26,226	4,546	58,900	42,260	950	15,690
Livermore Planning Area	16,248	13,542	2,706	22,480	18,410	300	3,770
Pleasanton Planning Area	9,843	8,423	1,420	15,000	11,130	390	3,480
Upper Amador Valley Planning Area	3,997	3,600	397	6,120	5,580	-	540
North Livermore Area	-	-	-	15,000	7,100	-	7,900
Other	684	661	23	300	40	260	-

Table II 2-a-3
Plan Alternate 2a
EXISTING POPULATION AND PROJECTED POPULATION HOLDING CAPACITY

EXISTING POPULATION - 1970, 1975

	Existing	
	1970 Census	1975 Estimate
Livermore-Amador Valley Planning Unit	77,655	106,400
Livermore Planning Area	39,589	53,200
Pleasanton Planning Area	20,049	34,200
Upper Amador Valley Planning Area	15,041	15,900
North Livermore Area	n/a	n/a
Other	2,976	3,150

PROJECTED POPULATION HOLDING CAPACITY - 1995

"D" SERIES AVERAGE HOUSEHOLD SIZE

	Housing Units ¹	Average Household Size	Population Holding Capacity
Livermore-Amador Valley Planning Unit	58,900	2.6	153,140
Livermore Planning Area	22,480	2.6	58,450
Pleasanton Planning Area	15,900	2.6	39,000
Upper Amador Valley Planning Area	6,120	2.6	15,910
North Livermore Area	15,000	2.6	39,000
Other	300	2.6	780

CONSTANT HOUSEHOLD SIZE 1975 - 1995

	Total Population	Urban Population	Rural Population	Urban			Multi-Family			Rural (Single Family Only)		
				Housing Units	Average Household Size	Population Holding Capacity	Housing Units	Average Household Size	Population Holding Capacity	Housing Units	Average Household Size	Population Holding Capacity
Livermore-Amador Valley Planning Unit	183,020	180,070	2,950	42,620		148,850	15,690		31,220	950		2,950
Livermore Planning Area	70,970	70,150	840	18,410	3.4	62,590	3,770	2.0	7,540	300	2.8	840
Pleasanton Planning Area	48,200	47,030	1,170	11,130	3.6	40,070	3,480	2.0	6,960	390	3.0	1,170
Upper Amador Valley Planning Area	22,120	22,120	-	5,580	3.8	21,200	540	1.7	920	-	-	-
North Livermore Area	40,650	40,650	-	7,100	3.5	24,850	7,900	2.0	15,800	-	-	-
Other	1,080 ¹	140	940	40	3.6	140	-	-	-	260	3.6	940

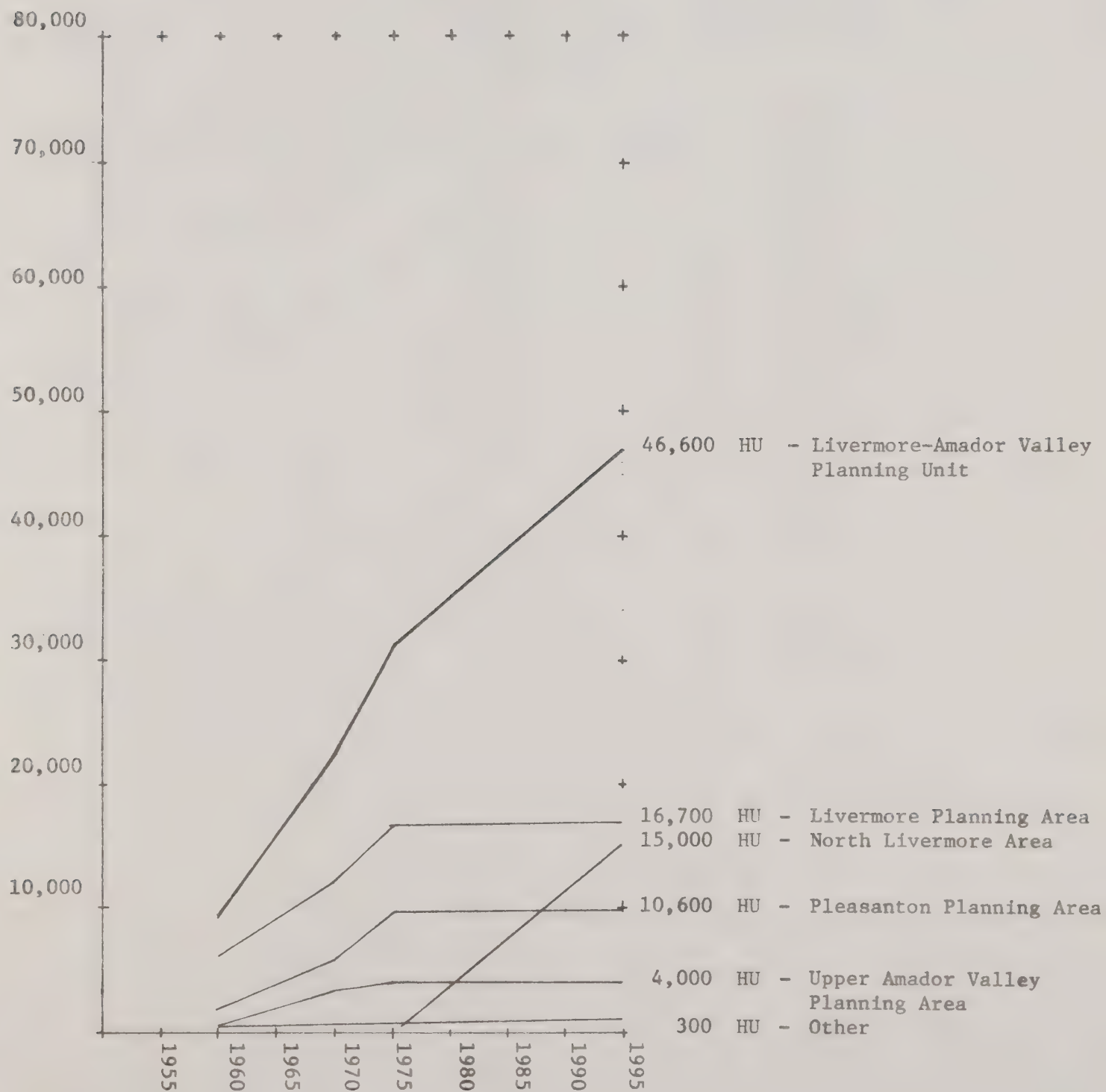
¹Does not include population outside planned residential areas.

- b. Alternate 2b proposes adjustment to General Plan proposals such that available growth capacity through 1996 is absorbed into a new urban center in the North Livermore Area. The alternate retains the County's proposal for the North Livermore Area, and reduces capacity in other urban centers.

Alternate 2b provides for approximately 46,600 housing units, including 45,650 in urban residential areas, and 950 in rural residential areas. The range of plan population holding capacity is 121,160 to 143,330.

Figure II 2-b-1
Plan Alternate 2b

EXISTING AND PROJECTED HOUSING SUPPLY



HU = Housing Units

Table II 2-b-1
 Plan Alternate 2b
 PROPOSED RESIDENTIAL, COMMERCIAL AND INDUSTRIAL LAND USE

	Residential ¹			Commercial ²	Industrial ³
	Total	Urban ⁴	Rural		
Livermore-Amador Valley Planning Unit	13,200	10,480	2,800	2,840	7,450
Livermore Planning Area	5,830	4,700	1,130	1,670	4,350
Pleasanton Planning Area	3,240	2,220	1,020	720	2,550
Upper Amador Valley Planning Area	850	850	-	360	260
North Livermore Area	2,700	2,700	-	90	290
Other	660	10	650	-	-

¹Includes residential lots and adjoining streets.

²Includes major and local commercial.

³Does not include: 1) 'Industrial or Agricultural'; 2) General Electric Vallecitos nuclear research facility.

⁴Suburban, Low, Low Medium and High Medium Densities.

Table II 2-b-2
Plan Alternate 2b

EXISTING AND PROJECTED HOUSING SUPPLY

Housing Units

	Existing - 1975 Estimate			Projected - 1995 Plan Alternate			
	Total	Single Family	Multi- Family	Total	Single Family		Multi- Family
					Urban	Rural	
Livermore-Amador Valley Planning Unit	30,772	26,226	4,546	46,600	32,420	950	13,230
Livermore Planning Area	16,248	13,542	2,706	16,700	13,400	300	3,000
Pleasanton Planning Area	9,843	8,423	1,420	10,600	8,270	390	1,940
Upper Amador Valley Planning Area	3,997	3,600	397	4,000	3,610	-	390
North Livermore Area	-	-	-	15,000	7,100	-	7,900
Other	684	661	23	300	40	260	-

Table II 2-b-3
 Plan Alternate 2b
 EXISTING POPULATION AND PROJECTED POPULATION HOLDING CAPACITY

EXISTING POPULATION - 1970, 1975

	Existing	
	1970 Census	1975 Estimate
Livermore-Amador Valley Planning Unit	77,655	106,400
Livermore Planning Area	39,589	53,200
Pleasanton Planning Area	20,049	34,200
Upper Amador Valley Planning Area	15,041	15,900
North Livermore Area	n/a	n/a
Other	2,976	3,150

PROJECTED POPULATION HOLDING CAPACITY - 1995

"B" SERIES AVERAGE HOUSEHOLD SIZE

	Housing Unit	Average Household Size	Population Holding Capacity
Livermore-Amador Valley Planning Unit	46,600	2.6	121,160
Livermore Planning Area	16,700	2.6	43,420
Pleasanton Planning Area	10,600	2.6	27,560
Upper Amador Valley Planning Area	4,000	2.6	10,400
North Livermore Area	15,000	2.6	39,000
Other	300	2.6	780

CONSTANT HOUSEHOLD SIZE 1975 - 1995

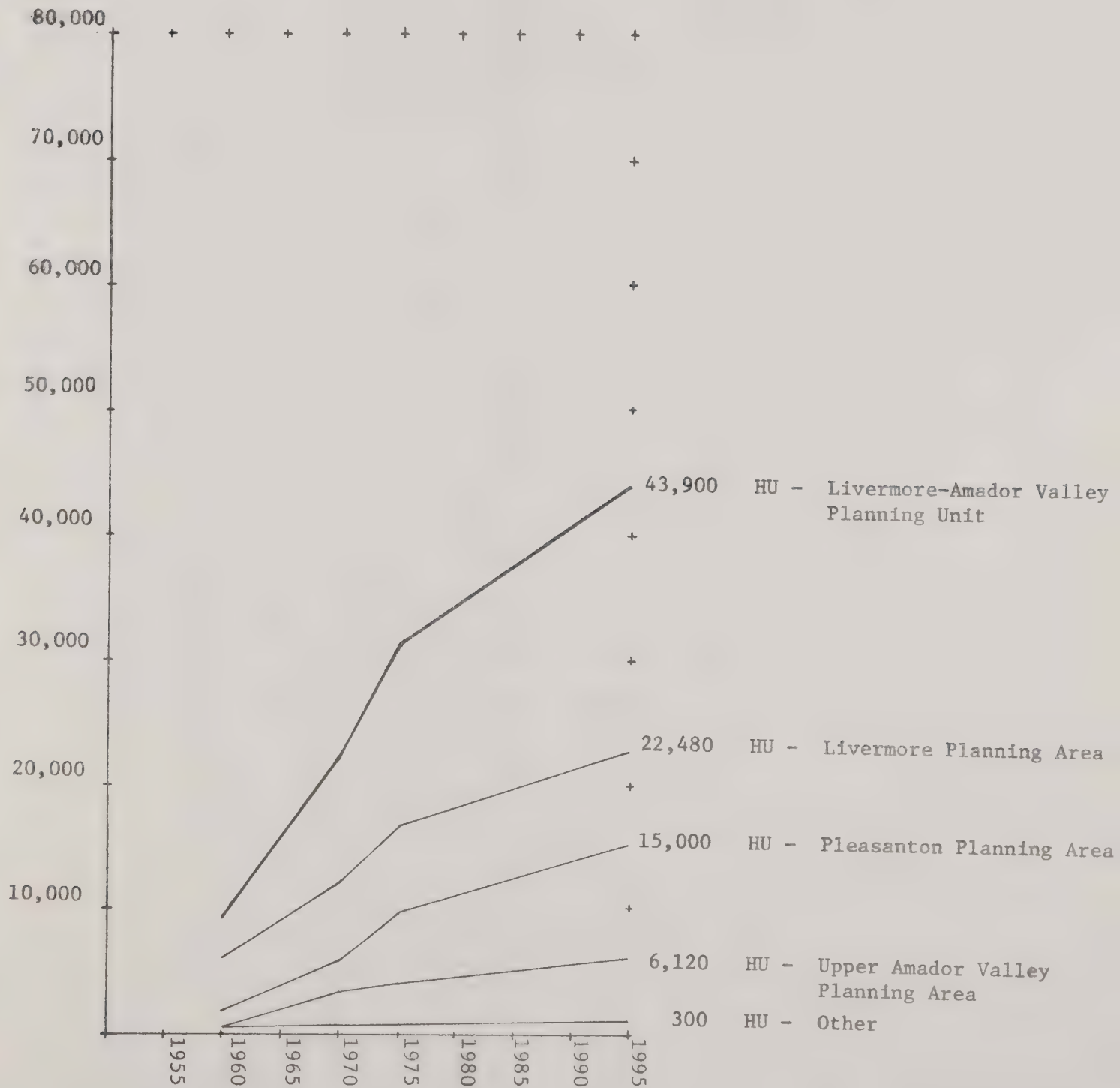
	Total Population	Urban Population	Rural Population	Urban			Multi-Family			Rural (Single Family Only)		
				Housing Units	Average Household Size	Population Holding Capacity	Housing Units	Average Household Size	Population Holding Capacity	Housing Units	Average Household Size	Population Holding Capacity
Livermore-Amador Valley Planning Unit	143,330	140,380	2,950	32,420		114,040	13,230		26,340	950		2,950
Livermore Planning Area	52,400	51,560	840	13,400	3.4	45,560	3,000	2.0	6,000	300	2.8	840
Pleasanton Planning Area	34,820	33,650	1,170	8,270	3.6	29,770	1,940	2.0	3,880	390	3.0	1,170
Upper Amador Valley Planning Area	14,380	14,380	-	3,610	3.8	13,720	390	1.7	660	-	-	-
North Livermore Area	40,650	40,650	-	7,100	3.5	24,850	7,900	2.0	15,800	-	-	-
Other	1,080 ¹	140	940	40	3.6	140	-	-	-	260	3.6	940

¹ Does not include populations outside planned residential areas.

- c. Alternate 2c adjusts adopted Plan proposals such that available growth capacity is absorbed into the existing urban centers. The alternate provides for approximately 43,900 housing units, including 42,950 urban and 950 rural housing units. Range of population holding capacity is 114,140 to 142,370.

Figure II - 2-c-1
Plan Alternate 2c

EXISTING AND PROJECTED HOUSING SUPPLY



HU = Housing Units

Table II-2-c-1

Plan Alternate 2c

PROPOSED RESIDENTIAL, COMMERCIAL AND INDUSTRIAL LAND USE

	Residential ¹			Commercial ²	Industrial ³
	Total	Urban ⁴	Rural		
Livermore-Amador Valley Planning Unit	12,310	9,510	2,800	2,750	7,160
Livermore Planning Area	6,200	5,070	1,130	1,670	4,350
Pleasanton Planning Area	4,020	3,000	1,020	720	2,550
Upper Amador Valley Planning Area	1,430	1,430	-	360	260
North Livermore Area	-	-	-	-	-
Other	660	10	650	-	-

¹Includes residential lots and adjoining streets.²Includes major and local commercial.³Does not include: 1) 'Industrial or Agricultural'; 2) General Electric Vallecitos nuclear research facility.⁴Suburban, Low, Low Medium and High Medium Densities.

Table II-2-c-2
Plan Alternate 2c

EXISTING AND PROJECTED HOUSING SUPPLY

	Housing Units						
	Existing - 1975 Estimate			Projected - 1995 Plan Alternate			
	Total	Single Family	Multi- Family	Total	Single Family		Multi- Family
					Urban	Rural	
Livermore-Amador Valley Planning Unit	30,772	26,226	4,546	43,900	35,160	950	7,790
Livermore Planning Area	16,248	13,542	2,706	22,480	18,410	300	3,770
Pleasanton Planning Area	9,843	8,423	1,420	15,000	11,130	390	3,480
Upper Amador Valley Planning Area	3,997	3,600	397	6,120	5,580	-	540
North Livermore Area	-	-	-	-	-	-	-
Other	684	661	23	300 ¹	40	260	-

¹Does not include approximately 500 units in agricultural districts.

Table II-2-c-3
Plan Alternate 2c
EXISTING POPULATION AND PROJECTED POPULATION HOLDING CAPACITY

EXISTING POPULATION - 1970, 1975

	Existing	
	1970 Census	1975 Estimate
Livermore-Amador Valley Planning Unit	77,655	106,400
Livermore Planning Area	39,589	53,200
Pleasanton Planning Area	20,049	34,200
Upper Amador Valley Planning Area	15,041	15,900
North Livermore Area	n/a	n/a
Other	2,976	3,150

PROJECTED POPULATION HOLDING CAPACITY - 1995

"B" SERIES AVERAGE HOUSEHOLD SIZE

	Housing Unit	Average Household Size	Population Holding Capacity
Livermore-Amador Valley Planning Unit	43,900	2.6	114,140
Livermore Planning Area	22,480	2.6	58,450
Pleasanton Planning Area	15,000	2.6	39,000
Upper Amador Valley Planning Area	6,120	2.6	15,910
North Livermore Area	-	2.6	-
Other	300	2.6	780

CONSTANT HOUSEHOLD SIZE 1975 - 1995

	Total Population	Urban Population	Rural Population	Urban Single Family			Multi-Family			Rural (Single Family Only)		
				Housing Units	Average Household Size	Population Holding Capacity	Housing Units	Average Household Size	Population Holding Capacity	Housing Units	Average Household Size	Population Holding Capacity
Livermore-Amador Valley Planning Unit	142,370	139,420	2,950	35,160		124,000	7,790		15,420	950		2,950
Livermore Planning Area	70,970	70,130	840	18,410	3.4	62,590	3,770	2.0	7,540	300	2.8	840
Pleasanton Planning Area	48,200	47,030	1,170	11,130	3.6	40,070	3,480	2.0	6,960	390	3.0	1,170
Upper Amador Valley Planning Area	22,120	22,120	-	5,580	3.8	21,200	540	1.7	920	-	-	-
North Livermore Area	-	-	-	-	3.5	-	-	2.0	-	-	-	-
Other	1,080 ¹	140	940	40	3.6	140	-	-	-	260	2.6	940

¹Does not include population outside planned residential areas.

3. Critical Determinants

a. Alternate 2a

1) Level of Growth Capacity

Valleywide growth capacity is equal to the sum of capacity in the Livermore-Amador Valley Water Management Area service area, in the North Livermore Area, and in the Rural Residential Areas. Capacity in the existing LAVWMA service area is constrained by the fundable capacity of the LAVWMA wastewater management system. Here, the population capacity is determined by State Water Resources Control Board policy to fund and certify to the Environmental Protection Agency treatment capacity to serve population needs based on the Department of Finance Series E fertility and 0 net migration projection. For the LAVWMA service area in Alameda County this is a population of 130,879 in 1996, and 136,468 in 1998. The state projections do not include assumptions regarding average household size, in number of households.

Population holding capacity in the North Livermore Area is established by Board of Supervisors policy for the area. Plan amendment adoption provides for the development of 15,000 housing units in the North Livermore Area, providing capacity for approximately 40,000 persons.

2) Distribution of Growth Capacity

Distribution of capacity in the LAVWMA service area is determined by State Board policy regarding fundable capacity of local wastewater treatment systems. The fundable capacities correspond to E-0 population projections, as follows:

	1996	1998
Total LAVWMA Service Area	144,998	150,958
Total in Alameda County	130,879	136,468
Pleasanton	45,229	47,056
Livermore	63,575	65,239
Valley Community Services District (Dublin)	22,075	24,173
Total Outside Alameda County (Contra Costa County)	14,119	14,490

Population capacity in the North Livermore Area is established by County Board of Supervisors policy.

3) Rate of Increase in Growth Capacity

No annual rate of growth is selected for the Valley as a whole. Growth rates in Livermore and Pleasanton are, or will be determined by local policy:

City of Pleasanton:

The City of General Plan selects no rate of growth per year but only growth limits to be reached within 20 years and at "ultimate" development. The 20 year limit corresponds to that which would

attained at an E-0 growth rate. Although the City Plan selects no growth rate per year it does propose 1) initiation of a local growth management program to regulate amounts, location and timing of development, and 2) continuance of the City's current limited growth policy as an interim measure "until critical questions dealing with air and water quality have been answered, and the potential for future development is more accurately known, and the comprehensive growth management program has been implemented."

City of Livermore:

"It is the policy of the city that the annual population rate for any given year for the Livermore Planning Area shall not exceed two percent."

"It is the policy of the City to encourage the participate in coordinated programs in association with other communities within the Livermore-Amador Valley and the levels of government in achieving an acceptable Valleywide growth rate which is supportive to each community's adopted growth policy."

County policy regarding growth rates derives from the Alameda County General Plan and from adopted requirements for the North Livermore Area:

General Plan: " . . . Expansion should be controlled development to provide efficient installation and operation of public features . . ." Policy requirements for Special Plan for Las Positas (Board Resolution No. 157830):

"In the specific planning and zoning construction will be staged over a period of time and mitigation of water and air pollution problems in the Livermore-Amador Valley will be a consideration in such staging so that development will not result in causing air or water pollution to exceed reasonable levels."

b. Alternate 2b

1) Level of Growth Capacity

Valley wide growth capacity is constrained by fundable capacity of the LAVWMA wastewater management system. As indicated, this is a 1996 population of 130,879, and 1998 population of 136,468 in Alameda County portions of the LAVWMA service area.

2) Distribution of Growth Capacity

Distribution of growth capacity is directly effected by County policy to develop a new urban center in the North Livermore Area. To remain within the funding and population constraints of State Water Resources Control Board policy on the LAVWMA system, this County policy would require cessation of growth in Pleasanton, Livermore and Dublin. Growth capacity in these urban centers would therefore be approximately equal to existing 1976 levels.

3) Rate of Increase in Growth Capacity

As nearly all future increases growth capacity would be contained in to the North Livermore Area, the County policy regarding growth rates in this area would apply (see Alternate 2a).

c. Alternate 2c

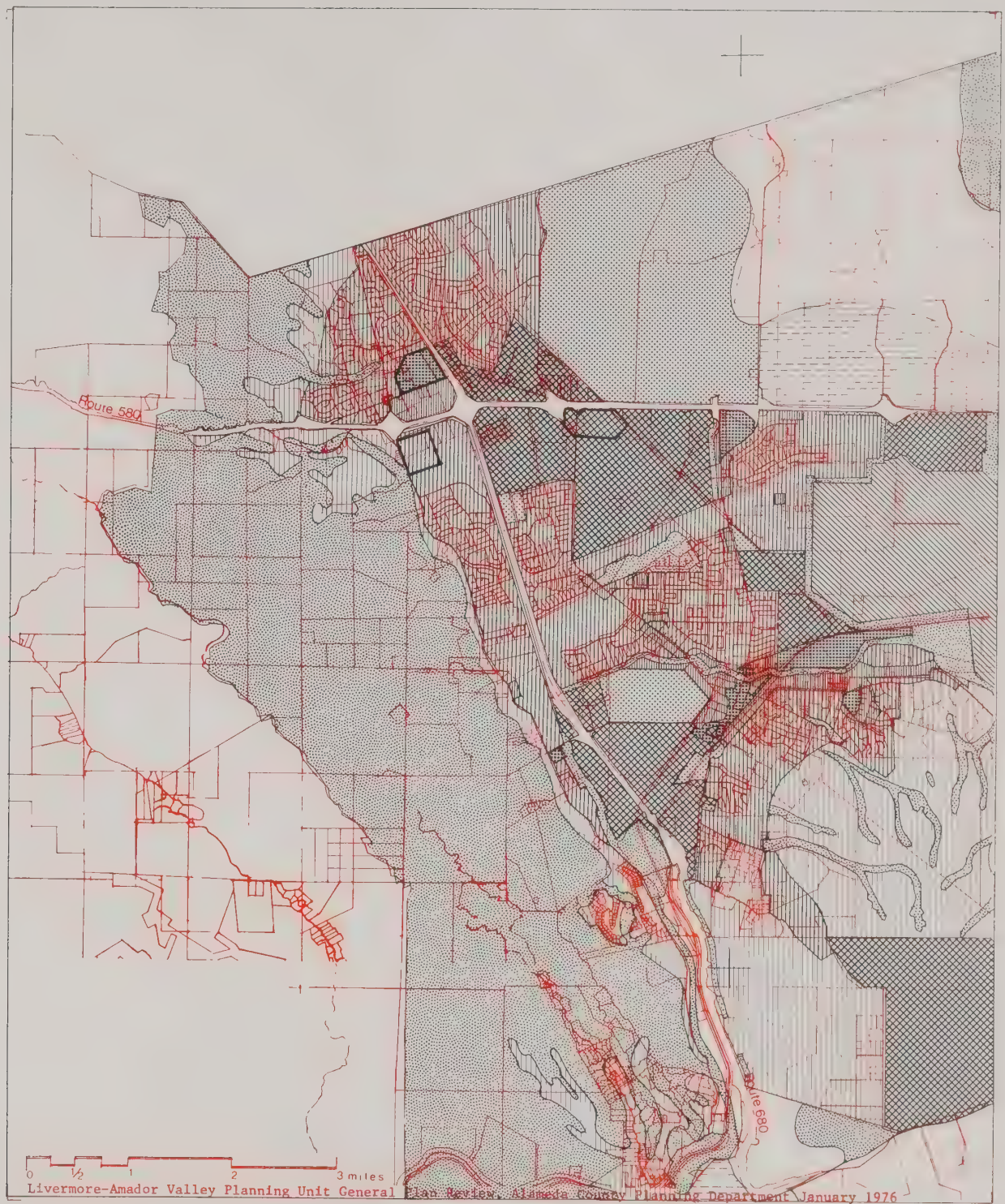
- 1) Valley wide growth capacity under Alternate 2c is also constrained by fundable capacity of the LAVWMA wastewater management system.

2) Distribution of Growth Capacity

Distribution of growth capacity is confined to existing urban centers in the LAVWMA service area, and is determined by State Water Resources Control Board policy regarding fundable capacity of local wastewater treatment systems (see Alternate 2a).

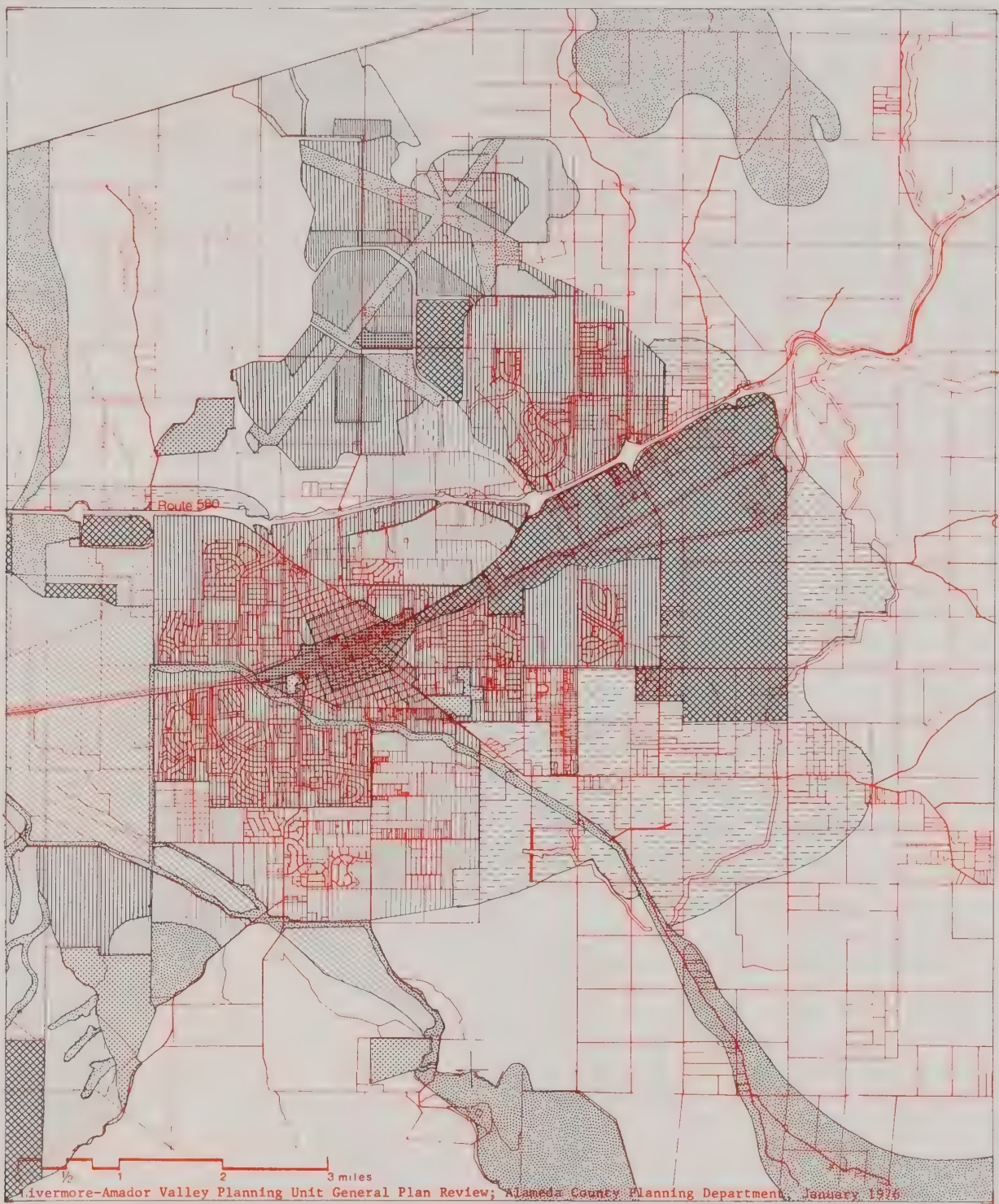
3) Rate of Increase in Growth Capacity

Growth Rates in Livermore and Pleasanton are or will be determined by local policy. Growth rates in the unincorporated areas (Rural Residential Areas and Dublin Area) would reflect implementation of County General Plan policies.



Symbol	Classification
	SUBURBAN Less than 3.5 housing units per gross residential acre
	LOW RESIDENTIAL 3.6 to 6.6 housing units per gross residential acre
	MEDIUM & HIGH RESIDENTIAL 6.7 to 25.2 housing units per gross residential acre
	COMMERCIAL Central Business District, Major Commercial Areas
	ALTERNATE MAJOR COMMERCIAL AREA
	INTENSIVE INDUSTRIAL

	SAND & GRAVEL PITS
	AIRPORTS
	PUBLIC, SEMI-PUBLIC, INSTITUTIONAL
	MAJOR PARKS & RECREATION AREAS
	CULTIVATED AGRICULTURE
	UNCULTIVATED & UNDEVELOPED
















GENERAL PLAN COUNTY OF ALAMEDA

PLAN ALTERNATE 2A LAND USE AND CIRCULATION LIVERMORE-AMADOR VALLEY PLANNING UNIT

LEGEND











LAND USE

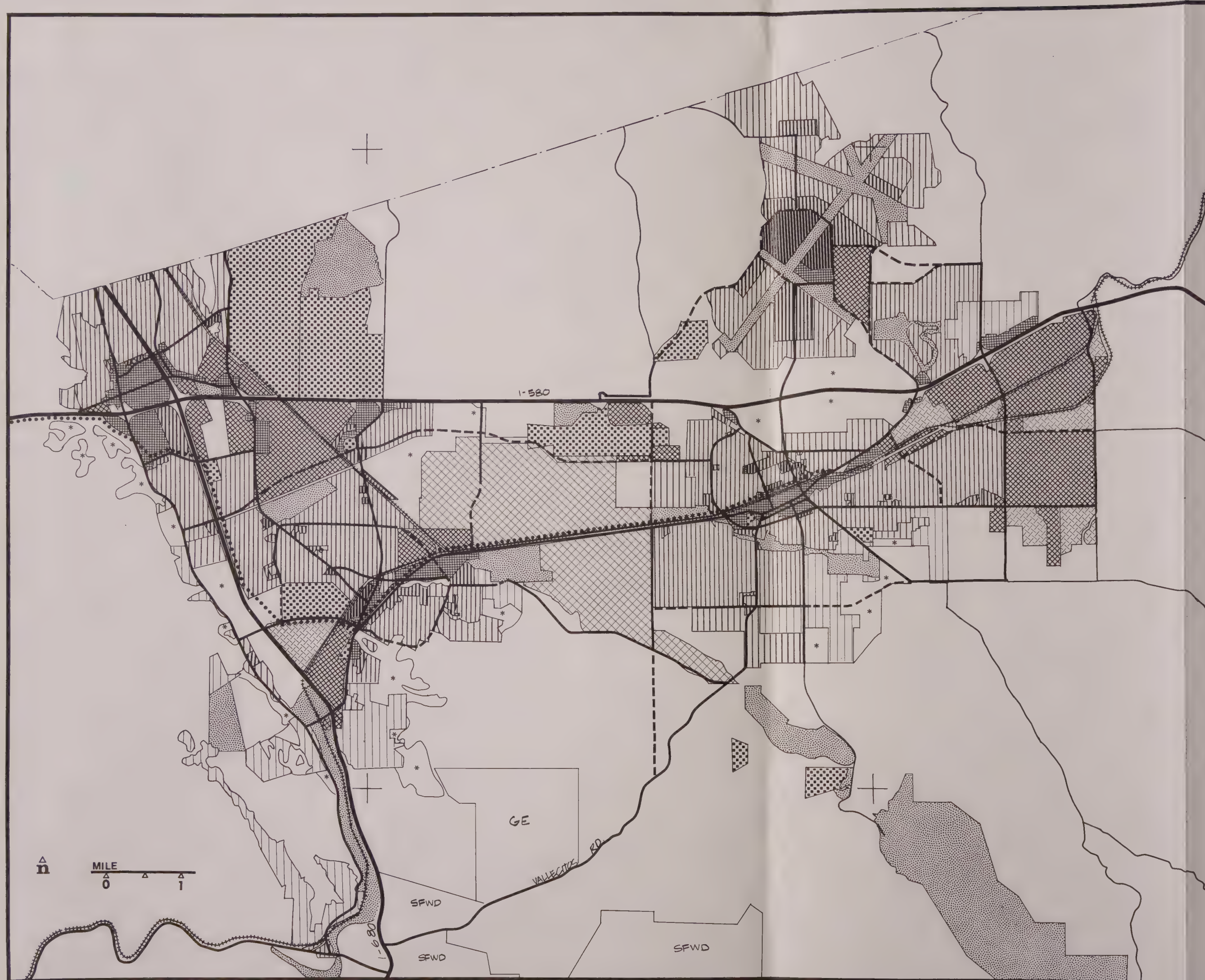
RESIDENTIAL

-  **RURAL**
0.9 units or less/gross res'l acre
-  **SUBURBAN**
1.0 to 3.5 units/gross res'l acre
-  **LOW**
3.6 to 6.6 units/gross res'l acre
-  **LOW MEDIUM**
6.7 to 13.2 units/gross res'l acre
-  **HIGH MEDIUM**
13.3 to 20.9 units/gross res'l acre
-  **MAJOR COMMERCIAL**
-  **INDUSTRIAL**
-  **INDUSTRIAL OR AGRICULTURAL**
-  **SAND AND GRAVEL QUARRY**
-  **MAJOR PUBLIC**
-  **MAJOR PARKS**
-  **AGRICULTURAL**
-  **POST 1995 URBAN**
(City Proposals)

CIRCULATION

EXISTING PROPOSED

-   **FREEWAY**
-   **MAJOR THOROUGHFARE**
-   **MAJOR RURAL ROAD**
-   **RAILROAD**
-   **RAPID TRANSIT**
















GENERAL PLAN COUNTY OF ALAMEDA

PLAN ALTERNATE 2B LAND USE AND CIRCULATION LIVERMORE-AMADOR VALLEY PLANNING UNIT

LEGEND









LAND USE

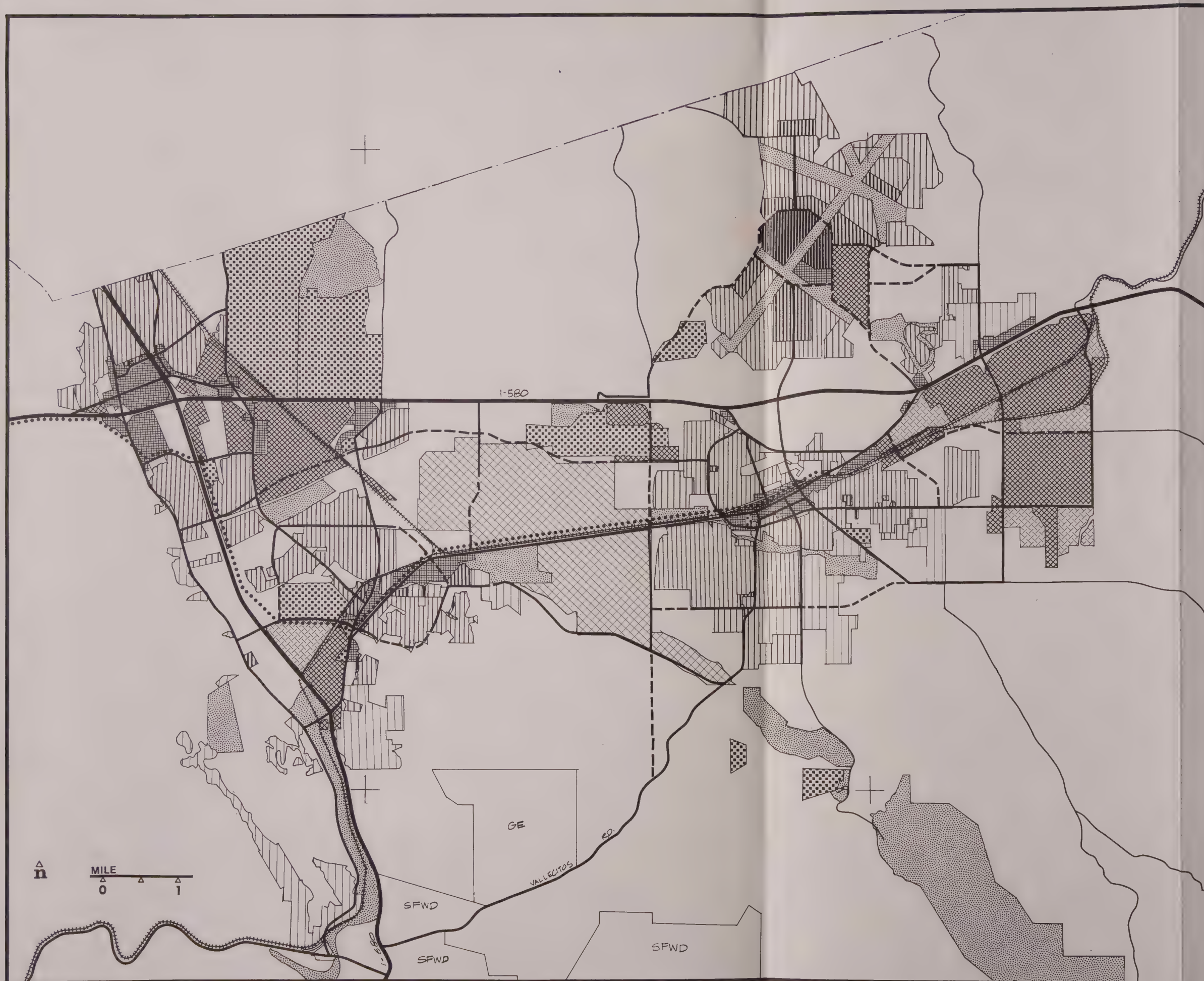
RESIDENTIAL

-  **RURAL**
0.9 units or less/gross res'l acre
-  **SUBURBAN**
1.0 to 3.5 units/gross res'l acre
-  **LOW**
3.6 to 6.6 units/gross res'l acre
-  **LOW MEDIUM**
6.7 to 13.2 units/gross res'l acre
-  **HIGH MEDIUM**
13.3 to 20.9 units/gross res'l acre
-  **MAJOR COMMERCIAL**
-  **INDUSTRIAL**
-  **INDUSTRIAL OR AGRICULTURAL**
-  **SAND AND GRAVEL QUARRY**
-  **MAJOR PUBLIC**
-  **MAJOR PARKS**
-  **AGRICULTURAL**
-  **POST 1995 URBAN**
(City Proposals)

CIRCULATION

EXISTING PROPOSED

-   **FREEWAY**
-   **MAJOR THOROUGHFARE**
-   **MAJOR RURAL ROAD**
-  **RAILROAD**
-  **RAPID TRANSIT**



GENERAL PLAN COUNTY OF ALAMEDA

PLAN ALTERNATE 2C LAND USE AND CIRCULATION LIVERMORE-AMADOR VALLEY PLANNING UNIT

LEGEND

LAND USE

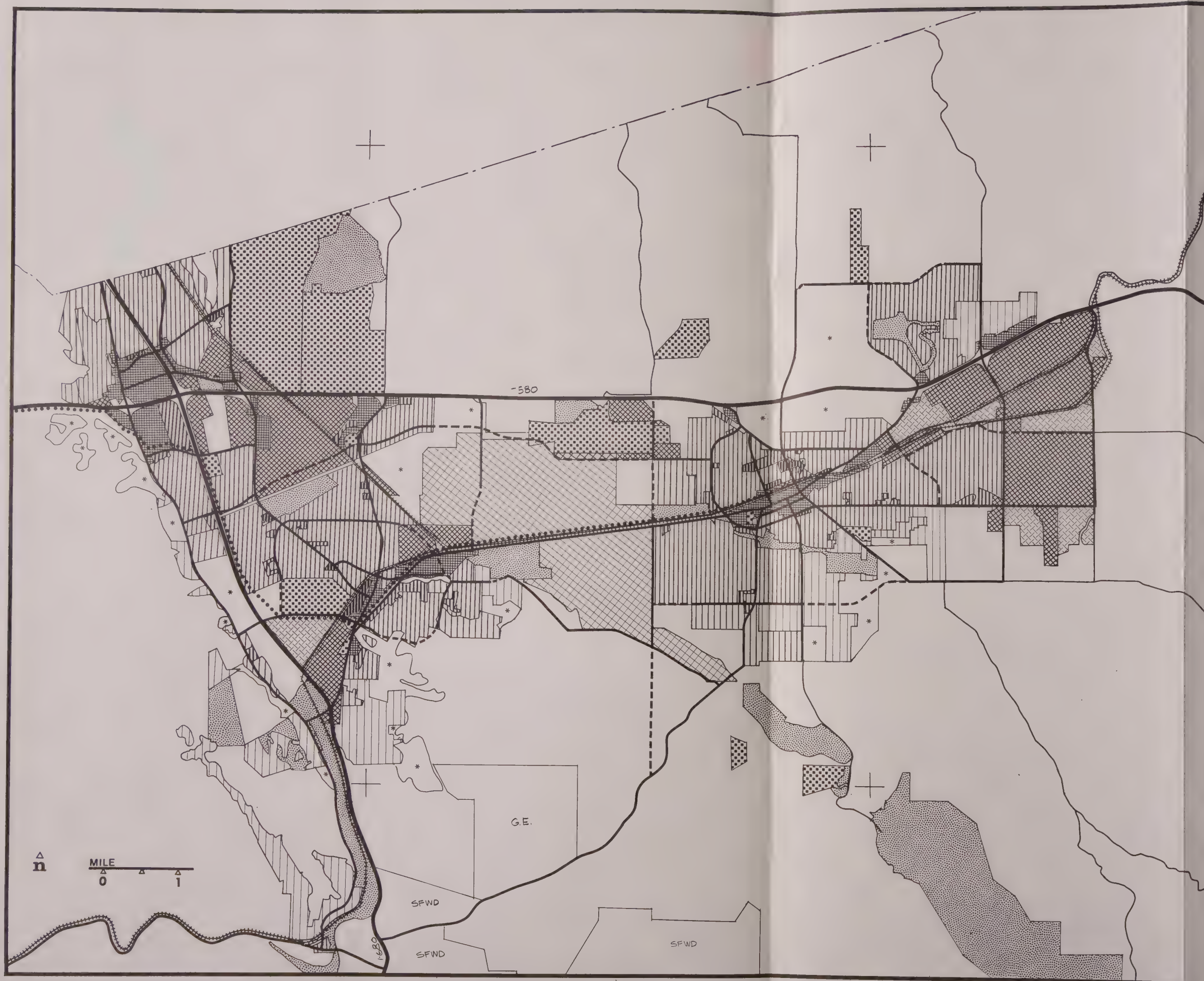
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CIRCULATION

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- | | | |
|--|--|---------------------------|
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| | | RAILROAD |
| | | RAPID TRANSIT |



VII. ENVIRONMENTAL IMPACTS

Introduction

A. Natural Physical Environment

1. Geology - Impacts

a. Mineral Resources

1) Sand and Gravel Resources

The direct impact of continued quarry operations is the ultimate depletion of the available resource. Planned quarry operations also impact soil and agricultural resources, groundwater resources, geologic hazards, noise, traffic and other environmental qualities.

The adopted plan indicates areas which have been, or are planned to be quarried. The Alternate Plans indicate areas presently under permit but do not include recommendations regarding staging of quarry operations or specifics for reclamation plans. Policies and plans for the quarry area will follow from the findings and recommendations of the Sand and Gravel Study Committee.

2) Other Mineral Resources

At present, high grade crude oil is produced, intermittantly, from wells in open areas east of Livermore. Other mineral resources in the Planning Unit, including chromite, fireclays, coal, manganese and silver, are present in limited quantities in remote areas.

3) Unique Geologic Features

Areas of geologic significance for educational, scientific or scenic purposes designated on the adopted plan and plan alternates as open space are the Tesla area, a former mining site, which is considered of geological significance, and the Patterson area, which includes a unique geologic structure.

b. Geologic Hazards and Constraints

1) Groundshaking

The entire Livermore-Amador Valley would be strongly shaken by a significant earthquake on the Calaveras Fault, and would experience moderate to strong groundshaking during a major earthquake on the active Hayward and San Andreas faults, located west of the Livermore-Amador Valley Planning Unit.

Sites underlain by deep zones of loose, water-saturated alluvium would be subject to higher amplitude, more damaging ground motion than sites underlain by bedrock. Reduction of this hazard must take place primarily through building controls.

2) Fault Displacement

Risk of loss due to fault displacement is greatest very close to the trace of the active Calaveras Fault. The Pleasanton Fault has been classified as active by the U.S. Geological Survey. Faults classified as active under U.S. Atomic Energy Commission (U.S.A.E.C.) criteria include Greenville-Riggs Canyon, Livermore, Ramp Thrust, and the second strand of Tesla Fault. Five other faults are classified as active under additional highly restrictive U.S.A.E.C. criteria. There are the Mocho Fault, Corral Hollow Fault, Dougherty Fault, Carnegie Fault, and Patterson Pass Fault.

Plan proposals generally preclude intensive urban development within zones of known or "active" faults. However, in the Pleasanton and Upper Amador Valley areas, some development is proposed in or near defined fault zones.

The proposed Pleasanton regional shopping center site, is adjacent to the located trace of the Calaveras Fault. A geologic survey indicates no undue hazard if report recommendations are followed.

Large lot Rural and Suburban density residential development proposed in the area of the Calaveras Fault trace, along Foothill Road and in the Upper Amador Valley area, would allow structures to be situated away from the fault traces.

There is existing, as well as proposed residential development along the Pleasanton Fault zone. Damage to industrial structures in the more northern reaches of this fault, could be reduced if requirements of the Alquist-Priolo Act are followed.

3) Ground Failures

a) Soil Liquefaction

Soil liquefaction would be experienced in valley areas underlain by unconsolidated, recent alluvial deposits containing a high water table, or in areas of perched aquifers (saturated materials located above the general water table). Much of the land subject to liquefaction hazard has already been developed. Reductions in agriculture land use, resulting from displacement of agriculture by urban uses could increase the liquefaction potential if high water tables result from decreased agricultural groundwater pumping.

b) Landsliding

Landsliding may be induced by a combination of energy sources, such as seismic forces, stream erosion, rainfall, climate and solar radiation, and factors including earth materials, physiography of the area, and geologic features. Hill areas in the Planning Unit are most susceptible to landsliding due to terrain which is often underlain by unconsolidated surficial deposits, the common occurrence of clays that swell and become highly plastic when wet, the occasional periods of high rainfall, occasional strong earthquakes, and activities of man that disturb relatively stable slopes with excavated material, engineering structures, and irrigation water, or by disturbance of the surface and groundwater regime.

The Alternate Plan Proposals call for substantial reductions in projected hill area residential development, particularly in the Pleasanton and Upper Amador Valley areas with future development limited to restricted infill within existing Rural Residential areas.

2. Soils - Impacts

a. Soil Resources/Prime and Potential Prime Agricultural Lands

Impacts of development proposed in the adopted General Plan and the three Plan Alternates includes direct and measurable losses of productive and potentially productive agricultural land, and indirect impacts of urbanization on agricultural viability.

Agriculture is currently the major land use in the Livermore-Amador Valley. In 1973 there were approximately 30,000 acres of cropland. Class I, Class II and certain Class III prime agricultural soils total approximately 30,000 acres. Soils uniquely suited for wine vineyards total approximately 4,000 acres. Prime and unique agricultural lands are primarily within the flat to gently sloping Livermore-Amador and Sunol valleys.

From 1960 to 1975 there were approximately 2,300 acres of prime lands in the Valley lost to urban and quarry uses. Ultimate losses, under adopted and Alternate Plan proposals, are indicated in the following table:

Losses¹ of Prime² and Unique³ Agricultural Lands
 Alternate Plan Proposals
 Livermore-Amador Valley Planning Unit

	Prime ² Soils			Unique Agricultural Lands ³		
	Total Loss (acres)	Loss to Urban	Loss to Quarry	Total Loss (acres)	Loss to Urban	Loss to Quarry
Plan Alternate 2a	16,290	14,650	1,640	2,460	2,220	240
Plan Alternate 2b	14,800	13,160	1,640	2,320	2,080	240
Plan Alternate 2c	13,900	12,260	1,640	2,460	2,220	240

¹All losses, both existing and projected.

²Class I and II and certain Class III Soils.

³Suited for wine grapes.

Local city and county governments, authorized to regulate land uses, are directly responsible for the provision and protection of sites for agricultural production. Agricultural production is dependent on the availability of suitable sites, the availability of efficient acreages, as defined by changing needs of the industry; availability of farm labor, machinery, fertilizers and pesticides, market prices; distance to market and suppliers; taxes and rents; climate; and potential of local sites for high yield or high value crops.

Agricultural production in the Livermore-Amador Valley Planning Unit will be affected not only by losses of prime agricultural sites, a direct and significant result of proposed development, but also by local and national growth and economic trends.

b. Soil Constraints - Impacts

Vulnerability of natural soil types to erosion has been mapped by the U.S. Geologic Survey, and ranges from low in the extreme northeastern corner of the Planning Unit, to moderate in the valleys and uplands, to high in the southern highlands.

Hill area residential development, which is most extensive under the adopted General Plan, would likely result in increased erosion of creeks draining the hill areas due to increases in runoff resulting from increases in imperviousness and from drainage improvements intended to quickly remove rainfall, to reduce landslide hazards.

Development in the valleys, due to stability, would likely decrease sediment loading of local streams. Increases in runoff from developed areas could increase erosion along unimproved streambeds, possibly offsetting general reductions in valley sediment load. Increased sediment loading becomes critical where it would result in clogging of natural recharge streambeds within the Valley or in the Fremont area.

3. Air Quality - Impacts

The Livermore-Amador Valley is a part of the San Francisco Air Quality Control Region, and is a critical air area with respect to oxidant. The conditions responsible for this designation make the Valley particularly sensitive to increased vehicular emissions, the primary source of air pollution in the Valley.

a. Residential Impacts

New single family housing will probably continue to attract larger, more affluent households with high rates of auto use. The greatest increases in this group of families, and hence the greatest air quality impacts would occur under development proposed by the Adopted General Plan, followed by Alternates 2a, 2b and 2c.

As the existing rate of travel of Valley residents is already extremely high, new housing may also be expected to have substantially greater impacts on total travel and on air quality than equivalent amounts of growth in other, more centrally located parts of the County and Bay Area.

Because adverse air quality is an existing, rather than potential problem, any growth within the Livermore-Amador Valley may be expected to have a significant effect upon the basin's air quality, either decreasing air quality, or making it more difficult for air quality standards to be met.

b. Commercial and Industrial - Impacts

Valley-based industry would reduce VMT and associated vehicular air pollution. Additional valley employment for existing valley residents would reduce VMT; but new employment for residents in additional housing units would increase the present VMT, as would new jobs that attract employees from outside the valley.

c. Regional Impacts

Regional growth and development, also impact air quality in the Livermore-Amador Valley as follows:

- A large portion of vehicular travel in the Valley, estimated to be approximately 40 percent of average weekday VMT, is through travel in Interstate 580 and 680 freeways. Up to 14 percent of this is heavy truck travel. Heavy regionally generated weekend traffic between the Central Bay Area and the interior Valley is expected to increase proportionally to regional population and economic growth.
- Estimates of pollutants transported to the Livermore-Amador Valley from the more urbanized Bay Area range from one-half to one-third of total Valley pollutants (hydrocarbons). In the absence of photochemical dispersion modeling, only gross estimates of future pollution levels, or of the significance of transported versus locally-generated pollutants are possible.

Pollutants generated by through travel or transported from other parts of the Bay Area can only be controlled by regional and statewide regulations.

d. Health Hazard

If growth occurs, the existing population will continue to feel the effects of oxidant pollution which occur from local traffic, through traffic, stationary sources, or transported pollutants from the East Bay.

4. Hydrology - Impacts

a. Surface and Groundwater Resources

Development under the existing plan and the three alternates would have significant impacts on groundwater and surface waters in the Planning Unit and in adjacent areas.

1) Surface Waters

Increased levels of urbanization would increase the runoff from storms, and thus increase flows in the major streams, bringing potential flood hazards. Low summer flows, being a function of recharge and sewage plant discharge, would be subject to actions taken in regard to recharge and effluent disposal. When the LAVWMA wastewater system is operational water ways now receiving effluent would cease to carry wastewater effluent flow.

Increased runoff from urban areas will increase the pollutant load reaching receiving waters with the highest concentrations of pollutants during the first major storms of the season. Runoff and pollutant load are largely functions of amount of urbanized area, and would therefore be most significant under adopted General Plan proposals, followed by Alternate 2a, 2b and 2c.

2) Groundwaters

Urban development would greatly increase the impervious area. However, since it is largely low density residential, percolation rates tend to be high due to applied irrigation. In addition, except for the sand and gravel quarry area, and limited portions of local streambeds, the Valley is naturally impervious due to the clay layer overlying the aquifers. Very little natural recharge takes place in areas proposed for urban development.

Sand and gravel quarry operations pose a significant threat to the recharge of Valley aquifers, as recharge occurs largely in areas of aggregate extraction. A comprehensive plan for the quarry area is now being developed.

Preliminary proposals indicate a series of interconnected lakes carrying recharge waters around impervious areas, such that natural recharge capability should not be impaired.

If agricultural pumping from the upper aquifer is reduced, there could be an increase in water levels in this aquifer making urban development untenable in much of the low lying area of the Amador Valley.

Runoff from the Livermore area, which would carry urban pollutants, could percolate into groundwater basins through the Arroyo Mocho and Arroyo Las Positas streambeds. Urban runoff from the Pleasanton and Upper Amador Valley areas would not directly percolate into Valley groundwater basins. Runoff entering Alameda Creek and carrying urban pollutants from the entire Livermore-Amador Valley, would largely occur during periods of high flow. Impacts on the Niles Cone Groundwater basin would be minor as high flows are normally allowed to bypass recharge pits.

b. Flood Hazards

Urban development will increase amounts of impervious area and consequently the quantities and rate of surface runoff. Development runoff rate can be expected to be about double the undeveloped runoff rate. A detailed watershed study, such as that being undertaken by the U.S. Army Corps of Engineers, would determine the amount and potential effects of runoff.

Flood hazard mapping has been undertaken for the U.S. Department of Housing and Urban Development in response to requirements of the Flood Disaster Insurance Act of 1973. Substantial amounts of existing and proposed urban development are within flood hazard areas designated in Preliminary Flood Insurance Rate Maps.

5. Biotic Conditions

a. Biotic Resources

As a result of proposed development, existing biotic systems in urban and quarry areas will be supplanted with new systems that adopt to changed conditions.

Development as infill of existing urban areas would have the least impact on native species. Rural development adjacent to existing urban areas would not greatly impair or restrict habitat. However, extensive hill area rural and suburban density residential uses, isolated from existing urban areas, could interfere with the movement of larger, intolerant species.

Continued urban growth will accelerate the change from natural species to replacement species while stream channelization will reduce habitat and increased urban storm runoff can seriously degrade water quality and harm aquatic special.

Increased recreational use of local lakes and reservoirs could displace the Southern Bald Eagle, an endangered species. Growth has reduced, and can be expected to further reduce the habitat of the Alameda Striped Racer, a rare species. Urban growth will not adversely effect rare and endangered plant species, because they are located in areas removed from urban centers.

b. Wildland Fire Hazard - Impacts

All wildland areas in the Alameda County are hazardous with respect to potential for wildfires, though the degree of hazard will vary. In general, fire hazardous areas are any mountainous areas of forest-, brush-, or grass-covered lands, generally over 8 percent in slope or with a continuous flammable vegetative cover. With the exception of existing rural residential areas, lands fitting this description are shown as open space in the Alternate Plan proposals.

There are at least three high risk fire areas in the Planning Unit:

- Kilkare Canyon is an existing high risk fire area because of the population density, limited access, steep slopes, limited water supply, dense vegetation and older homes.
- Other high fire risk fire areas include the Altamont open space area with a history of wildfires and the Del Valle Regional Park area. The Del Valle Regional Parkland indicated as open space in the existing and alternate plan is a high fire risk area because of the potential for fires is great.

6. Noise

Principal sources of noise include local and freeway traffic, industrial activity, railroad traffic, and airport traffic.

a. Vehicular traffic

Traffic volumes would increase with any growth. Associated noise levels, however, will not necessarily increase due to California instituted vehicular noise emission laws which aim to lower the noise produced by vehicles despite a 25 percent increase in traffic. Existing and proposed residential use adjacent to I-580 and I-680 freeways¹ within the projected 65 dbA L10 contour line, would be subjected to increased noise impact.

Noise from heavy truck traffic, associated with sand and gravel quarry activity, will continue in parts of Pleasanton, until El Charro Road or an alternate route is completed between I-580 freeway and Stanley Boulevard. Some truck traffic through Pleasanton would remain until Highway 84 is improved south to its junction with I-680 freeway.

¹As delineated by the State Department of Transportation.

b. Industrial Activity

Noise from quarries is buffered somewhat when operations occur below ground level. Present levels, though high, are not disruptive in that they occur at a distance from residential areas. As residential growth continues and quarrying activities expand to the limit of the extraction permit area, the potential for adverse impacts on residential uses will increase unless quarrying noise is adequately buffered.

c. Railroad Traffic

No reduction in individual train noise is anticipated. Consolidation of the two train lines to one route through Pleasanton and through Livermore would eliminate train noises from one source, but would increase noise annoyance along the consolidated line.

d. Airport Activity

Expansion of the Livermore Municipal Airport in both number and length of runway, and in the amount of air traffic, is expected. Overall impacts, including noise impacts are itemized in the "Master Plan - Livermore Municipal Airport." The projected 60 CNEL (Community Noise Equivalency Level) includes some existing residential areas in Livermore.

B. Cultural Environment - Impacts

1. Existing Land Use

The most significant, measurable impact of alternative development proposals will be the loss of existing open areas - undeveloped and vacant urban lands, productive agricultural lands, and uncultivated open space. The Plans otherwise reflect a commitment to retain and conserve existing residential, commercial, industrial and public improvements and uses.

2. Public Services - Impacts

With the exception of proposed development in the North Livermore Area, which must obtain many critical services through expansion of existing functions, or creation of new service entities, it is expected that the development proposed by the Plan Alternates will be served by existing public and private entities.

Although the Adopted and Alternate Plans are principally concerned with ultimate and overall amounts and general distribution in the Planning Unit, it is acknowledged that the most frequent problems or urban development have been related to the rate, rather than the projected limit of growth. Because of rapid population expansion, Valley communities have experienced facility difficulties in schools, water, sewerage and arterial traffic capacities - the effects of sudden increased demand for community facilities and a lack of adequate capital for expansion. Heightened community sensitivity to unconstrained, rapid growth is reflected in recently amended City General Plans which seek to align the rate and type of growth to local service capabilities.

2. Public Services

a. Water Supply

1) Organization

Treatment and wholesale distribution of imported waters and distribution and regulation of local groundwaters is the responsibility of Zone 7 of the Alameda County Flood Control and Water Conservation District. Municipal supply to serve growth of existing urban centers will be provided by the four retail service agencies: California Water Service Company, City of Pleasanton Water Department, City of Livermore, and Valley Community Services District. The City and County of San Francisco Water Department will continue to serve G.E. Vallecitos facility and the Lawrence Livermore Laboratory with Hetch Hetchy waters, and the Castlewood area with well waters. Domestic use of groundwater through private well operation will continue in many Rural Residential areas, although problems of well pollution may require use of municipal water supply.

Provision of water supply to serve proposed urban development in the North Livermore Area could be accompanied through extension of service responsibilities of an existing agency (City of Livermore or California Water Service Company), or, as suggested, by formation of a new County Service District.

2) Water Supply

Future water supply will continue to consist of both local groundwater and imported South Bay Aqueduct water. Existing communities and any new major consumer would share this common resource. Zone 7, which wholesales imported water and allocates groundwater, will act as arbiter between competing water supply demands. The Zone has set groundwater pumping limits for municipal water retailers. No specific allocations of imported water to retailers have been set.

The available supply of raw water, including safe groundwater yields and projected Zone 7 entitlements to imported water, would not be sufficient to meet projected demand under the Adopted General Plan. Future availability of raw, untreated, water, would present no limit on growth under the Alternate Plan Proposals.

3) Water Treatment

The new Del Valle treatment plant adds an additional 9 million gallons per day (MGD) capacity to the treated water supply capabilities and is considered adequate to meet current demand. Expansion of the plant to its full 18 MGD capacity would meet demand of the E-0 growth rate until about 1995, and would therefore meet projected municipal demands under Plan Alternates 2b and 2c. Growth above the E-0 level, as provided by Alternate 2a and by the Adopted General Plan would require further expansion of treatment capacity.

4) Water Quality

Zone 7's management program provides for a flexible Valley-wide distribution system and for blending of groundwater extractions with better quality imported surface water via the Cross-Valley transmission line. The existing line, with 13 MGD capacity, is adequate to serve E-0 growth in the Amador Valley through the 20 year Plan period, although well water would continue to be used. Capacity of the line is not sufficient to serve projected needs in both the Amador Valley and in the North Livermore Area under Alternates 2a and 2b, even assuming continued use of approximately 17 MGD of groundwater in the Amador Valley. Diversion of capacity in the Cross Valley line to serve proposed development in the North Livermore Area could result in reduction in the availability of imported waters to dilute poorer quality groundwater supplies.

b. Sanitary Sewer - Impacts

1) Organization

Collection and treatment of sewage in the existing urban centers would be provided through systems owned and managed by the Valley Community Services District, and the cities of Pleasanton and Livermore. Private systems, serving the Castlewood area, the General Electric Vallecitos facility, and the Veterans Administration Hospital are not expected to extend their service beyond present limits. Septic tank use will continue to be strictly controlled; further concentration of septic tank leaching systems in the Livermore-Amador Valley area is precluded. Sewage collection and treatment in the North Livermore Area is technically feasible through expansion of the City of Livermore plant, or through construction of a new and separate collection system and treatment facility.

2) Sewage Collection and Treatment

Effects of the State designation of the Livermore-Amador Valley as a critical air basin, and of the San Francisco Bay Area generally as an Air Quality Maintenance Area are that the cities and VCSD cannot receive State and Federal funds to increase sewer capacity to serve a population which exceeds a low, E-0 projection limit. Nor can the agencies receive funds until the Environmental Protection Agency determines that appropriate measures are assured to mitigate air pollution impacts associated with projected growth.

Sewage treatment capacity in VCSD, Pleasanton and Livermore should become available to serve E-0 growth as the local agencies have applied for State and Federal funding to assist expansion of treatment facilities. Expanded capacities would be adequate to serve projected needs in these service areas under Plan Alternates 2a and 2c. Because Alternate 2b calls for cessation of growth in the three existing communities, the amounts of additional treatment capacity for which applications have been filed would probably exceed projected

local needs. However, in consideration of current local commitments to serve continued, though reduced growth, it is very unlikely that proposed redistribution of growth called for under Plan Alternate 2b could be accomplished.

At present there are no sewage facilities available to serve proposed growth in the North Livermore Area. The City of Livermore's existing trunk line collection system has capacity which, to an extent, can accomodate some growth in this area. This capacity would not be utilized under Plan Alternates 2a and 2b. Under Alternate 2c, this capacity would not be needed until after 1995.

Any facility to serve a new urban center in the North Livermore Area must meet Regional Water Quality Control Board requirements. Treatment at an expanded City of Livermore facility would be consistent with Regional, State, and Local Agency Formation Commission policies regarding consolidation of local facilities and service entities. The quantities of growth and independent locations of the North Livermore Area probably would not permit state and federal funding for treatment facility expansion.

The alternative to treatment at the Livermore facility is the construction of a new and separate treatment facility to be managed by an existing agency or by a new service entity, such as a Community Service District. The treatment system must be designed to provide effluent quality consistent with Regional Water Quality Control Board standards.

3) Effluent Disposal

Existing plants cannot presently treat wastewater to the degree necessary to meet Regional Water Quality Control Board discharge requirements. To develop a regional solution to this problem the three agencies formed the Livermore-Amador Valley Water Management Agency. The selected LAVWMA project, chosen after review of fifteen alternatives, calls for treatment and export to the East Bay Dischargers Authority interceptor line. The project provides for continued treatment of wastewater at both the Livermore water reclamation plant and the VCSD plant. It is assumed that Pleasanton's Sunol Plant will discontinue operation and all of Pleasanton's wastewater will be treated at the VCSD plant. Treated effluent from the Livermore plant will flow by gravity to a peaking point which would provide storage at Livermore for above average flows. Treated effluent would then flow by gravity through a pipe designed to carry average flows to the LAVWMA regulating reservoirs located north of the VCSD plant. Treatment effluent from the VCSD plant would also flow by gravity to the LAVWMA regulating reservoirs. The regulating reservoirs would dampen peak discharges from the VCSD plant. Combined effluent would then be pumped from the regulating reservoirs through a force main west over Boehmer Summit and then flow by gravity to the East Bay Dischargers Authority interceptor.

The LAVWMA project will accomodate approximately 20 million gallons per day (MGD) of treated effluent. The project qualifies for both federal and state funding assistance, totalling 87.5 percent of eligible costs. Local costs must be approved by service area voters.

As indicated in Section VI-3, growth levels of Alternates 2b and 2c have been constrained by overall capacity of the LAVWMA system and by related State policy regarding population growth within the LAVWMA area. Overall growth under Alternate 2b is constrained by LAVWMA capacity, but allows for allocation of almost all future growth to the North Livermore Area. Alternate 2c provides that projected growth, as constrained by LAVWMA system capacity, would occur as infill and moderate expansion of the three existing urban centers.

Neither Alternate 2b or Alternate 2c would require an increase in the capacity of the LAVWMA Force main and regulating reservoirs. Alternate 2b, however, would require expansion of the Livermore interceptor line or construction of a parallel line in order to accomodate flows from both the Livermore Planning Area and the North Livermore Area. The LAVWMA Board has accepted 8.5 MGD, average flow, as the basis for design of the Livermore interceptor. This provides for the projected needs of a population of approximately 65,000 and for limited industrial expansion. Under Plan Alternate 2b, growth in the area tributary to the Livermore interceptor would exceed this population limit. Alameda County Planning Department estimates for Alternate 2b show a population range of 72,420 to 83,050 in this tributary area. Existing 1975 population is approximately 51,000.

Through LAVWMA, Pleasanton, Livermore and VCSD are committed to a coordinated, regional program for handling wastewater discharges. Other options, however, have been suggested for disposal of effluent from proposed development in the North Livermore Area. These include on-site disposal, discharge into Arroyo Las Positas, and conveyance to an impoundment reservoir.

The degree of treatment for land disposal by spray irrigation would be required to meet the definition of EPA secondary treatment and the requirements of the State of California Department of Public Health. Disposal by spray irrigation is acceptable to the State Water Resources Control Board, Regional Water Quality Control Board, and the Environmental Protection Agency, provided that there is no degradation to the groundwater quality.

Discharge of effluent directly to the Alameda Creek watershed would require the highest level of treatment, including denitrification and filtration in addition to secondary treatment, and desalination, a sophisticated and costly treatment. Influent to an impoundment reservoir must meet the requirements of EPA secondary treatment.

c. Solid Waste Collection and Disposal - Impacts

Collection and disposal of refuse will continue to be provided by the Livermore-Dublin Disposal Service and the Pleasanton Garabge Service.

Land disposal of solid wastes will continue in the short-range with associated impacts including loss of valuable, recoverable material and energy resources. The County Solid Waste Management Plan calls for intensive programs for material and energy recovery, and indicates that at least 67 percent of County solid wastes are to be recovered for energy or resources by 1980 and 92 percent by 1990. Resource recovery systems could have a significant impact on the reduction of solid wastes going to landfills, and would conserve valuable resources and energy.

Any growth would increase the amount of solid waste generated within the Planning Unit. The Alameda County Solid Waste Management Plan assumes the solid waste generation per person will increase at a rate of one percent per year, a rate which has held constant in recent years. The 1975 daily solid waste generation of 5.1 pounds per persons would increase to approximately 6.2 pounds per person by 1995. Using this assumption, solid waste generation would increase to approximately 500 tons per year under Alternate 2a, to 400 tons per year under Alternate 2b and under Alternate 2c.

d. Protection Services - Impacts

Additional manpower would need be added to police and fire forces, in accord with projected population growth. Broadened property tax bases, brought about through proposed commercial and industrial development, could enable high levels of community service. However, the ultimate level of service will be subject to local policy, irrespective of growth quantities.

Police protection services to serve existing and projected populations in the Livermore and Pleasanton areas will be provided by the city police forces. Currently service in the Dublin (Upper Amador Valley) area is split between the Alameda County Sheriff's Department (criminal activities) and the California Highway Patrol (traffic). This arrangement would continue unless Dublin is annexed to the City of Pleasanton, which could result in a service benefits. Service would not be split and personnel working for the local police agency would have the benefit of being assigned to the area on an ongoing basis.

Fire protection services to serve growth in Pleasanton and Livermore would be provided by the existing city fire departments. Growth in Dublin would be served by the VCSD fire department. Again, annexation of Dublin to Pleasanton, could result in better distribution of manpower, consolidated administration and training, and greater efficiency in the

usage of fire equipment. As provided in Alternates 2a, and 2c, growth within the existing communities would have only limited impacts of existing fire protection service capabilities.

Growth in the North Livermore Area, as provided by the Adopted Plan and by Plan Alternates 2a and 2b would require assignment of Sheriff's Department and California Highway Patrol personnel, if the area remains unincorporated.

Fire protection services in the North Livermore Area could be provided by extension of existing City of Livermore responsibilities, or by formation of County Special Service or Community Service District.

e. Education - Impacts

Future school enrollment is a function of many factors, including natural attrition due to maturation of the community as a whole, the rate of new home construction and the type and size of new housing units, birth rates, and the rate of changeover of the existing housing supply.

When growth occurs at the low, E-0 rate the birth rate of the existing population will be the dominant factor affecting school enrollment. Birth rates have been falling for some years, and is apparent in the lower grades. Without new residential growth, the replacement of larger graduating classes with smaller entering classes will continue to reduce total enrollments. When new growth is a large proportion of the total housing supply, as has been the case in the past and as would be the case in the North Livermore Area, the demographic characteristics of the in-migrating population greatly affects the school population. Upper grades would probably continue to show larger enrollment than lower grades.

Existing sites for almost all necessary schools exist. Under Alternate 2c, providing for low, E-0 growth in the existing urban centers, existing facilities in the Livermore Planning area appear to meet the 1990 school projections, although some adjustment, due primarily to shifts in location of population growth within the community, are suggested. The Pleasanton General Plan indicates that existing schools would likely suffice to serve E-0 growth in the Planning Area. Existing facilities in the Upper Amador Valley would probably serve through the Plan period, except that one additional elementary school site would likely be needed to serve proposed residences in the Dougherty Road area.

If development of the North Livermore urban centers occurs as an alternative to infill of existing centers, as provided by Plan Alternate 2b, the probable effects will include:

- Need for new public schools in the North Livermore Area. It is expected that proposed urban center, at full development, would generate sufficient students to require nine elementary schools, two intermediate schools, and one high school. This requirement would also hold for Plan Alternate 2a.
- Underutilization of school facilities elsewhere in the Planning Unit. Without new residential growth in the existing centers, enrollments may be expected to decline as the existing populations mature.

i. Park and Recreation

In the cities and unincorporated area, local parks would be provided at rates consistent with adopted policies, standards, and funding capabilities. No major impacts are anticipated in the Pleasanton or Upper Amador Valley areas. Significant impacts could result in the Livermore area under the Adopted Plan and Plan Alternates 2a and 2b. Provision of facilities and programs serving residents of this area are currently the responsibility of the Livermore Area Recreation and Park District. Park dedication and improvement, and operation of facilities within the City of Livermore would be accomplished in accordance with City ordinances and standards, while provision of parks to serve urban development in the unincorporated portion of the District would be in accordance with County ordinances and standards.

The major portion of regional park facilities in the Planning Unit are provided by East Bay Regional Park District. Growth throughout the Valley will result in increased demand for Regional Park facilities and programs. Unless the east Valley area is annexed to the District, proposed growth here could contribute to increased park service costs without providing equitable tax support.

f. Transportation

1) Streets and Highways

Any significant increase in growth within the Valley would lead to an increased demand for transportation facilities including streets and highways, both expanded systems to serve developing areas and expanded capacity of major arterials to serve increased volumes of traffic.

Impacts of growth will be felt most strongly on the major arterials - I-580 and I-680 freeways - particularly to the extent that development continues to encourage high levels of Vehicle Miles Traveled (VMT) and high rates of work and shopping related commuting. Route 580 is currently operating at capacity during peak hours, but after completion of widening through Dublin Canyon, I-580 freeway will have sufficient capacity to accommodate a Valley population of approximately 180,000. This is adequate to serve amounts of growth under Plan Alternates

2a, 2b and 2c. I-580 freeway, and to a lesser extent I-680 would also be subject to the impacts of increasing through traffic, resulting from county-wide and regional population and economic growth.

Capacity for a four lane freeway such as I-680 is about 71,000 Average Daily Travel. CALTRANS projections indicate that 1995 traffic will exceed this capacity, assuming maximum conditions and a valley population of 220,000. This projection assumes that I-680 will be widened. This level of Valley growth would not likely be achieved, except under the Adopted County General Plan.

Local street systems have or will be designed to accomodate increases in local traffic. The most serious congestion of existing local facilities is associated with shopping traffic (e.g. generated by existing and proposed major commercial areas) and with local work traffic (e.g. generated by major employers such as the Lawrence Livermore Laboratory). Impacts of truck traffic associated with continuing sand and gravel quarry operations relate mostly to noise generation impacts. Proposed circulation improvements relating to the movement of sand and gravel trucks are intended primarily to relieve the current noise impacts.

2) Public Transportation

At present, due to auto-oriented lifestyles of Valley residents and to the low density pattern of land use, there is only limited demand for public transportation facilities. Impacts of projected growth on public transit probably would not result directly from increased demand, but rather from policies and measures directed towards reducing automobile use. The effectiveness of a BART extension is questionable not only because of the low density of Valley development, and relatively low level of service area population, but also because of the broad dispersal of job destinations.

3) Air Facilities

Continued population growth within the Livermore-Amador Valley and within the larger market area of the Livermore Municipal Airport would result in increased operations. A Master Plan study prepared for the airport forecasts a 4.0 percent annual growth for the airport to 1995. This rate of growth would result in an increase to approximately 340,000 annual operations. The impacts of this increase is anticipated in proposals to expand the Airport facility.

h. Energy Services - Impacts

Development in the Planning Unit, rather than elsewhere within P.G. and E.'s service area makes little difference as far as major capital facilities are concerned, because the electrical grid system interconnects all areas to a large extent, and

energy loss in transmission lines is minimal. P.G. and E. is committed to serving any and all growth in its service area.

Currently consumption of electricity and of natural gas is considerably higher for Livermore-Amador Valley households than for households in the East Bay. Estimated average household consumption of electricity is approximately 40 percent higher, and consumption of natural gas is approximately 70 percent higher. The variance can partially be explained by differences in climate and, differences in housing design and type, and differences in lifestyles.

Continued growth in the Valley could result in up to 28 percent more electricity consumption and 56 percent more natural gas consumption than the same amount of growth in the East Bay, although these differences could be reduced by energy-efficient dwellings, less reliance on electrical appliances, and other energy-conserving changes.

Consumption of gasoline is currently high, due to such factors as the high number of vehicles per household, high number of trips per dwelling unit, the relative remoteness of Valley Communities from Bay Area urban centers, and the high proportion of external commuter and shopping trips. The Metropolitan Transportation Commission estimates Livermore-Amador Valley travel at between 66 and 75 vehicle miles traveled (VMT) per dwelling unit per day. This compares with Bay Area Average of 36 to 42 VMT per unit per day. This means that Valley households utilize roughly 80 percent more gasoline than does the average Bay Area household. This percentage is likely to remain this far above the Bay Area average in the future as there is a lack of significant employment centers within the valley.

3. History and Archaeology - Impacts

Construction activities associated with urban growth could destroy or cover buried archaeologic remains whose existence is not presently known. No comprehensive archaeological reconnaissance of the projected urban area has been made, and an accurate evaluation of potential impacts or urban growth cannot be made until such a survey has been made. It can be assumed, however, that conversion of land to urban uses will increase the potential for loss of archaeologic resources.

4. Aesthetics - Impacts

Population growth would predominantly affect the general appearance of the Valley through increased quantities and densities of urban land uses. The spread of urban land uses, is greater under the Adopted General Plan than under Plan Alternates. All would tend to eliminate much of the openness which currently characterizes Valley development. Further expansion of quarrying operations, as well as reclamation of depleted quarries, will have very significant effects on the visual setting. Development in the upland areas, which provide a natural backdrop for the Valley, would impair the visual amenity.

C. Socio-Economic Environment

There are effects on the environment of the Valley which may be anticipated from the population and economic development. The effects may also be expected to vary with the size and composition of the population and with the extent and character of the economic development. For both population and the economy, an important influence will be the distribution or location within the Valley.

There is considerable interaction between the population and the economy. The size of population requires a level of services to accord with it. The size of population also requires income to maintain it, and for most of the people this means jobs. The larger the population the more jobs will be needed. If they are not supplied within the Valley those who need them will be unemployed or seek work outside the Valley, which they may or may not obtain, or may find uneconomic or not feasible.

The composition or character of the population also influences the level of needed or desired services. A population with a high proportion of labor force ages, presently considered 16 and older, will have more wage-salary producers. The education and skills of the labor force will affect their rates and income. The interest of women in employment (labor force participation) and their education and skills will influence their pay rates and the income of their households.

To the extent that such employment is not available in the Valley the residents will, as noted earlier, seek employment outside the Valley. The effects of this will be greater commuting, increased expenditures for transportation and thereby increased costs for a job, diversion of expenditures for other purposes, probable reduction of expenditures for consumption in the Valley. These effects are additional to the effects of increased length of home-to-work trips on VMT, emissions, and air pollution. Also to be considered are the effects of long commutes and traffic congestion on the held of the individual worker and the social effects of reduced time for family and community life.

The complexity of these interrelationships precludes more than a general indication of the effects, such as the above. A change in each factor or variable has an effect on the others. Pending further analysis, consideration is limited to major variables such as size of population labor force, and job availability.

The size of population and size of labor force to be considered here are those associated with the existing County population projections released in 1972, the "A" series and the "B" series, plus the populations estimated for Alternates 2a, 2b, and 2c, all for 1995.

Population in Livermore-Amador Valley Planning Unit

A series	235,000
B series	179,000
Alternate 2a	177,000
Alternate 2b	138,000
Alternate 2c	131,000

Job needs, as noted earlier, are determined by the size of the labor force. This in turn is determined by the proportion of the population projected to be of labor force age, now considered to be 16 and older. In 1970 this proportion in the Valley population was 62 percent. By 1995 the proportion in the A series will rise to about 74 percent with in-migration and 76 percent without in-migration. It is almost identical for the B series, and for Alternate 2a. For Alternate 2b and Alternate 2c it is projected to be approximately 72 percent.

The job needs under each of the populations above are estimated as:

A series	94,000
B series	72,000
Alternate 2a	71,000
Alternate 2b	55,000
Alternate 2c	53,000

The job supply or availability to meet these needs can reasonably be considered to come from (1) the services needed or desired by the resident population ("population-serving employment"), and (2) the industries now in the Valley which appear to have stability and expectation of expansion; the unmet needs from (3) outside the Valley.

The jobs to be expected under each projection of population and the balance of unmet needs which would have to be met outside the Valley are as follows:

	<u>Population-serving</u>	<u>Basic industry</u>	<u>Balance</u>
A series	51,000	17,000	34,000
B series	39,000	17,000	22,000
Alternate 2a	38,000	17,000	21,000
Alternate 2b	30,000	17,000	13,000
Alternate 2c	28,000	17,000	11,000

The basic industry represents employment now in the Valley which appears likely to need expansion from 1976-1995. This is described in more detail in chapter III-D. The population-serving employment is based on the current Alameda County experience of 217 jobs per 1,000 residents. The balance would have to be met outside the Valley, and therefore require commuting the longer distances as well as the other effects noted earlier in this section.

To compare the above commuting requirements of each population with present commuting the number of residents commuting to jobs outside the Valley 1974-1976 averaged 17,000 (see Table III-32). Accordingly, Alternate 2b and Alternate 2c would enable reductions of the present level of commuting, while Alternate 2a would require an increase in commuting by 4,000 residents.

VIII. IMPACTS ON PUBLIC POLICIES AND REGULATIONS

A. Federal Policies and Regulations

Plans and policies of Federal Agencies would be involved in consideration of retaining or changing present General Plan policies and plans. Federal policies and regulations that are implemented by the state, regional, or local jurisdictions include: The Air Quality Act of 1967, Clean Air Amendments of 1970, Water Quality Act of 1965, Federal Water Pollution Control Act Amendments of 1972, The National Environmental Policy Act of 1970 and all Federal Assistance Programs regulated by Circular A-95, all as described in Section IV.

B. State Policies and Plans

1. Air Resources Board

The existing plan and plan Alternates each would impact the implementation of plans and regulations prepared by the Air Resources Board. Alternate 2c by virtue of population concentration and numbers would be most favorable to attain clear air standards, followed by 2b and 2a. The existing plan would be least favorable.

2. Department of Conservation: State Geologist

If any General Plan areas proposed for development fall within the Alquist-Priolo Zones Act, the County or cities will be required to comply with any policies and criterion developed by the State Mining and Geology Board.

3. Department of Transportation (CAL TRANS)

Transportation policies and plans within the Livermore-Amador Valley must be in accord with policies to be adopted by the State.

4. Water Resources Control Board

General Plan policies must be measured against Water Resources Control Board regulations described in Section IV.

C. Regional Policies and Plans

1. Association of Bay Area Governments (ABAG)

ABAG policies and plans described in Section IV have been considered within the preparation of Livermore-Amador Valley policies. The policies and plans are considered by ABAG during the plan review process.

2. Bay Area Air Pollution Control District (BAAPCD)

Livermore-Amador Valley Plan policies were prepared with consideration of BAAPCD policies and regulations described in Section IV. By

virtue of population concentration and numbers, alternate 2c would provide the least degradation to air quality, followed by 2b and 2a.

3. San Francisco Bay Area Regional Water Quality Control Board (SFBARWQCB)

Livermore-Amador Valley Plan policies and selection of a plan alternate must be guided by and adhere to RWQCB policies and regulations. Present implementation plans in the Livermore-Amador Valley are consistent with RWQCB regulations.

4. Metropolitan Transportation Commission (MTC)

Livermore-Amador Plan Policies and Plan Proposals in each alternate are consistent with major arteries indicated in the MTC Plan.

D. Subregional Policies and Plans

1. Livermore-Amador Valley Water Management Agency (LAVWMA)

Policies and plans of local agencies must reflect the capacities of the proposed LAVWMA facilities. The present General Plan for 1990 (1966 amended to 1976) exceeds the capacities of the planned facilities. The low range of each alternate, except alternate 2a is within the capacity of the system.

E. Alameda County Policies and Plans

1. Local Agency Formation Commission

The existing General Plan for 1990 (1966 amended to 1976) does not reflect present LAFCO spheres of influence. Plan alternate 2c recognizes present LAFCO spheres of influence as described in Section IV.

IX. MITIGATION MEASURES PROPOSED TO MINIMIZE ENVIRONMENTAL IMPACTS

One of the primary purposes of the General Plan program is to mitigate, or minimize the adverse impacts of growth and development through the assessment of probable consequences and relative advantages and disadvantages of alternative courses of action. Amendment of the adopted General Plan, through expansion and refinement of policies and through adjustment of development proposals, provides significant mitigation of potential impacts resulting from adopted proposals. While mitigation of adverse conditions resulting from past development or anticipated in imminent development is limited, substantial mitigation is possible in areas where commitment is limited to general development proposals and where public and private investment to accomodate growth is relatively minor.

General Plan policies are used as the major measures to minimize proposals indicated in the plan alternates. Plan policies serve to preclude, or constrain development in environmentally sensitive areas and to otherwise guide proposed development in order to minimize adverse impacts on social, economic and physical environmental values. Both adopted and proposed General Plan policies are identified in Sections VI-B and VI-C of this report. Other adopted County policies, standards and regulations also serve to mitigate the impacts of specific actions and projects; those measures bearing upon development in the Livermore-Amador Valley Planning Unit have been identified, in part, in Plan Review Background Reports, and in recently adopted Elements of the Alameda County General Plan.

As described in Section VI-2, the Alternate Plan Proposals do not indicate an annual rate of growth. Selection of such a rate, alone, would not substantially reduce potential impacts of proposed development. However, a significant degree of mitigation could be achieved through adoption of a comprehensive set of guidelines to assure timely and environmentally sound development by relating the phasing of growth to the phased extension and expansion of service capabilities, and to the achievement of environmental, economic or social objectives.

X. UNAVOIDABLE ADVERSE ENVIRONMENTAL IMPACTS

Unavoidable adverse impacts are those which cannot be effectively eliminated or mitigated if a particular development proposal is adopted. Most of the following unavoidable impacts would result from all of the development proposals. With the exception of impacts arising from quarry operations and general geologic hazards, which would be common to all the proposals, the magnitude of unavoidable impacts would be highest for the Adopted General Plan, followed, in order of descending impact, by Alternate 2a, 2b and 2c.

Environmental Resources - Unavoidable Impacts

- Extraction and loss of non-renewable sand and gravel resources.
- Loss of open space, including prime and unique agricultural lands, to urban and sand and gravel quarry uses.
- Possible degradation of surface waters from long-term increases in pollutants from urban runoff.
- Potential interference with groundwater recharge as a result of quarry operations.
- Continued, though reduced, degradation of air quality.
- Reduction in wildlife habitat.
- Diminished visual amenities of rural setting.
- Increased demand on groundwater and imported water supplies.

Environmental Hazards and Constraints - Impacts

- Moderate landslide and fault displacement risk in development areas along active faults.
- Low to moderate risk of groundshaking in areas over Valley alluvium.
- Potential risk of damage in flood hazard areas.
- Exposure of existing and future residents to health hazards of polluted air which exceed air quality standards.

Public Services - Impacts

- General increased demands on urban services, facilities and utilities.

XI. ALTERNATIVES TO THE PROPOSED ACTION

This report has considered the impacts of the existing plan and three alternates. Major features of these proposals are described in Section V-E. Other alternatives relating to overall growth capacity not detailed herein include: a proposal to retain County General Plan capacity for the Livermore-Amador Valley Planning Unit at its pre-North Livermore Area Amendment level; and a no-growth proposal.

The impacts of the pre-Amendment General Plan were considered in "Environmental Impact Report-North Livermore Plan Amendment Consideration."¹ This alternative is not considered viable at this time, due to substantial changes in City development policies for their Planning Areas and because of overriding environmental concerns. Plan Alternate 2a is a partial consideration of the pre-Amendment Plan to the extent that it retains County development proposals for the North Livermore Area while reducing capacity in other parts of the Planning Unit.

A no-growth alternative would eliminate many of the adverse environmental impacts associated with the Adopted and Alternate Plan proposals. In particular, this alternative would facilitate the effective implementation of measures to mitigate problems of air quality. This alternative is not considered reasonable due to the extent of current development commitments, the severe impacts it would have on local economies, and because it would not allow for accomodation of natural increases in population.

XII. RELATIONSHIP BETWEEN LOCAL SHORT TERM USES OF MAN'S ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG TERM GOALS

Primary short term effects which are likely to foreclose future options or needs are:

- Commitments to development in an area with unique and serious environmental problems making it more difficult for critical environmental standards and objectives to be met.
- Commitments to predominantly low density single family housing patterns, as to commit future as well as existing households to auto-dependent and high energy consumptive lifestyles, and as to limit the variety of housing available to meet future needs.
- Commitments of public and private resources to amounts of new development at the possible expense of revitalization and redevelopment of existing urban areas.
- Commitments of prime and unique agricultural lands to urban development and to sand and gravel extraction resulting in losses of agricultural productivity.

¹Alameda County Planning Department, October 15, 1974.

XIII. IRREVERSIBLE ENVIRONMENTAL CHANGES

Land, once urbanized, would not be expected to change, except to another urban use. Agricultural and open space land would be irreversibly lost to development, resulting in reduced agricultural production, in losses of wildlife habitat, and in disruption of hydrologic systems. Associated with increased urbanization will be increased traffic, a rise in ambient noise levels, and an increase in the consumption of fuels and of renewable and non-renewable materials.

The magnitude of these changes would generally be in proportion to the overall level of growth and extent of urban development, and would therefore be greatest under the Adopted General Plan, and least under Alternate 2c.

XIV. GROWTH INDUCING IMPACTS

By its very nature, a General Plan anticipates growth and development. Optimally the amounts of population growth provided by land use proposals should closely correspond to desired levels as defined by other elements of the Plan.

Certain features of the Adopted and Alternate Plan proposals could induce amounts of growth in excess of that planned to be accommodated in residential areas. These features include the extensive industrial area, the proposed regional shopping center, and the proposed BART extension. Proposed industrial areas, if fully developed, could provide for employment greatly in excess of that needed by Valley residents. The proposed shopping center will serve a market area larger than the Valley. The BART extension could attract, or perhaps justify, amounts of unanticipated growth. To the extent that growth in the Livermore-Amador Valley is constrained by local and County policy, these, or similar proposals could induce growth in adjoining areas outside the Valley.

The adopted General Plan and the Plan Alternates could also induce untimely development. This impact could be minimized through inclusion of phase development guidelines.

APPENDIX A

General References

Alameda County Planning Department, Livermore-Amador Valley Planning Unit
General Plan Review -

- Land Use Background Report Draft, January 1976.
- Environmental Resources and Constraints Background Report Draft, January 1976.
- Public Services Background Report Draft, March 1976.
- Population Analysis Review, April 1976.

General Plan, County of Alameda, State of California. May 1966 as amended to August, 1976.

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City of Livermore. Livermore Community General Plan 1976-2000, March 1976.

U.S. Environmental Protection Agency, Final Environmental Impact Statement, Livermore Amador Valley Wastewater Management Program, August 1976.

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. Livermore Amador Valley Water Management Agency Draft Project Report Volume 2, Livermore Interceptor Preliminary Engineering Report, April 1976.

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, Draft Environmental Impact Report for the Community General Plan, Livermore, California, 1975.

Arthur D. Little, Inc., Environmental Impact Report Supplemental Analysis: Population Growth and Air Quality in the Livermore-Amador Valley for the Valley Community Services District Stage III Waste Water Treatment Plant Enlargement, July 1974.

Environmental Preliminary Draft Master Reclamation Plan for the Livermore-Amador Valley Quarries, September 1976.

Wilsey & Ham. Analysis of Environmental Factors, Las Positas New Town General Plan Amendment, February 1974.

August W. Compton & Associates. Master Plan Livermore Municipal Airport, December 1975.

APPENDIX B
REFERRAL LIST - LIVERMORE-AMADOR VALLEY
PLAN AMENDMENT CONSIDERATION AND EIR

Alameda County Officials

Airport Land Use Commission
399 Elmhurst Street
Hayward, CA 94544

Parks Advisory Commission
Alameda County Planning Department
399 Elmhurst Street
Hayward, CA 94544

Alameda County Comprehensive
Health Planning Council
499 Fifth Street
Oakland, CA

Zoning Administrator
399 Elmhurst Street
Hayward, CA 94544

Bruce Fry
Development Planning Division
399 Elmhurst Street
Hayward, CA 94544

Jessie Cambra
Road Division, Public Works
399 Elmhurst Street
Hayward, CA 94544

Paul Lanferman
Flood Control, Public Works
399 Elmhurst Street
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Victor Taugher
Building Official, Public Works
399 Elmhurst Street
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Dave Carpenter
County Geologist
399 Elmhurst Street
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Roland Mayne
Local Agency Formation Commission
County Administrators Office
1221 Oak Street
Oakland, CA

Millard Meisner, Chief
Southern Health Center
2550 Peralta Boulevard
Fremont, CA

Jerry Winn, Director
Environmental Services
Health Care Services Agency
Highland General Hospital
1411 E. 31st Street
Oakland, CA 94612

Sheriff's Department
Room 104, Court House
1225 Fallon
Oakland, CA 94612

Farm Advisor
Room 162
Winton Avenue Building
224 W. Winton Avenue
Hayward, CA 94544

Sand and Gravel Committee
359 Division Street
Pleasanton, CA 94566

Cities & Local Districts

City of Livermore Planning Department
2250 First Street
Livermore, CA 94550

City of Livermore Public Works Department
2250 First Street
Livermore, CA 94550

Livermore Area Park and Recreation District
71 Trevarno Road
Oakland, CA

Livermore Valley Joint Unified School District
685 Las Positas
Livermore, CA

Cities & Local Districts (continued)

Sunol Glen Elementary School District
P.O. Box A
Sunol, CA 94586

Metropolitan Transportation Commission
Hotel Claremont
Berkeley, CA 94705

City of Pleasanton Planning Department
359 Division Street
Pleasanton, CA

Bay Area Rapid Transit District
800 Madison Street
Oakland, CA

Pleasanton Joint School District
4750 First Street
Pleasanton, CA

East Bay Regional Park District
11500 Skyline Boulevard
Oakland, CA

COVA
c/o Valley Community Services District
7051 Dublin Boulevard
Dublin, CA

Bay Area Air Pollution Control District
939 Ellis Street
San Francisco, CA 94109

California Water Service
2570 First Street
Livermore, CA

Water Quality Control Board
1111 Jackson Street, Room 6040
Oakland, CA

Valley Community Services District
7051 Dublin Boulevard
Dublin, CA

Citizens Utilities Company of California
City Hall
Pleasanton, CA

San Francisco Public Utilities Commission
City Hall
San Francisco, CA

Pacific Gas and Electric Company
24300 Clawiter Road
Hayward, CA

South County Junior College District
400 Wall
Livermore, CA

Pacific Telephone and Telegraph
26212 Industrial Boulevard
Hayward, CA

Pleasanton Housing Authority
200 Bernal Avenue
Pleasanton, CA

State and Federal

State Department of Water Resources
1416 9th Street
Sacramento, CA

County, and Regional

Contra Costa County Planning Department
County Administration Building
Martinez, CA

Air Resources Board
William Lockett
Chief Evaluation and Planning
1025 P Street
Sacramento, CA

Santa Clara County Planning Department
County Administration Building
70 West Hedding
San Jose, CA

State Clearing House
Office of the Governor
Office of Planning and Research
1400 Tenth Street
Sacramento, CA 95814

San Joaquin County Planning Department
1850 E. Hazelton Avenue
Stockton, CA 95205

Department of Agriculture
State Board of Agriculture
1220 N Street, Room 111
Sacramento, CA 95814

Association of Bay Area Governments
Hotel Claremont
Berkeley, CA 94705

State and Federal (continued)

Department of Water Resources
1416 9th Street
Sacramento, CA

Division of Mines and Geology
Ferry Building
San Francisco, CA

Department of Transportation
T. R. Lammers
Rincon Annex
San Francisco, CA 94119

California Department of Transportation
Division of Aeronautics
Sacramento Executive Airport
Sacramento, CA 95822

United States Department of Agriculture
Soil Conservation Service
P.O. Box 672
Livermore, CA

Federal Housing Administration
450 Golden Gate Avenue
San Francisco, CA

Federal Communications Commission
Field Operations Bureau
P.O. Box 311
Livermore, CA 94550

Other

Livermore-Dublin Disposal Service
(Oakland Scavenger Company)
2612 1st
Livermore, CA

Southern Pacific Transportation Company
17017 Wood Street
Oakland, CA 94607

Western Pacific Marketing Division -
Sales Office
1407 Middle Harbor Road
Oakland, CA

Alameda County Farm Bureau
638 Enos Way
Livermore, CA 94550

Sierra Club
5608 College
Oakland, CA 94618

Livermore League of Women Voters
P.O. Box 702
Livermore, CA 94550

Briarhill Homeowners Association
P.O. Box 2135
Dublin, CA 94566

Alisal Improvement Club
c/o O. M. Barlow
5723 Alisal Street
Pleasanton, CA

Silvergate Homeowners Association
William Beermann
7987 Castilian Road
Dublin, CA

Audubon Society
c/o William Hurd
2754 Olive Avenue
Fremont, CA

Livermore Community Recycling
Center-Lois Hill
874 Adams Avenue
Livermore, CA

East Bay Trails Council
c/o East Bay Regional Park District
11500 Skyline Boulevard
Oakland, CA

People for Open Space
126 Post Street, Room 607
San Francisco, CA 94108

PARC-Margaret Tracy
1262 Madison Avenue
Livermore, CA

Cattlemen's Association
Victor L. Lund
P.O. Box 458
Pleasanton, CA 94566

Dublin Chamber of Commerce
7996 Amador Valley Boulevard
Dublin, CA 94566

Pleasanton Chamber of Commerce
10 W. Neal Place
Pleasanton, CA

Others (continued)

Livermore Chamber of Commerce
1723 Barcelona
Livermore, CA

Oakland Tribune
Tribune Towers
Oakland, CA

Thomas Dickert
College of Environmental Design
University of California
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The Daily Review
325 South 1
Livermore, CA

Associated Building Industry
3462 Mt. Diablo Boulevard
Lafayette, CA 94549

Herald & News
Livermore Office
325 South 1
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Pleasanton, CA 94566

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P.O. Box 415
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San Francisco Examiner
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Harlan Gelderman
Gelderman Realtors
600 San Ramon Valley Boulevard
Danville, CA

Wisley & Ham
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Livermore, CA 94550

Valley Times
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